REPORT TO CONGRESS

PAYING PHYSICIANS: CHOICES FOR MEDICARE

Otis R. Bowen, M.D.

Secretary

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EXECUTIVE SUMMARY

PAYING PHYSICIANS: CHOICES FOR MEDICARE

1. THE PURPOSE OF THIS REPORT. The Social Security Amendments of 1983 (P.L. 98-21, sec. 603), which enacted the Medicare Hospital Prospective Payment System (PPS), required that the Secretary report on "the advisability and feasibility of...determining the amount of payments for physicians' services furnished to hospital inpatients based on the DRG (diagnosis-related group) type classification of the discharges of those inpatients." In June 1984, faced with an increase in Medicare's payments for physician services from $3 billion to $15 billion over the preceding 9 years and with the prospect of continued growth near 20% a year, Congress froze Medicare's payment rates for physician services. At the same time, Congress asked the Secretary to accelerate the report on physician DRGs and to provide several other reports to help in design of a program to follow the freeze.

In particular, Congress directed the Secretary to provide by July 1, 1985 "recommendations in sufficient detail to serve as the basis for legislative action which Congress can take to assure that any burden of effectively constraining the growth of costs in the medicare part B program, which Congress intends to be borne by providers and physicians, is not transferred (in whole or in part) so as to become an additional burden on part B beneficiaries in the form of increased out-of-pocket expenses or reduced access to needed physician care." (P.L. 98-369, sec. 2306).

Congress also directed that "during the 15-month period beginning July 1, 1984 the Secretary of Health and Human Services shall monitor physicians' services in order to determine any changes in the per capita volume and mix of physician services

provided to beneficiaries under part B of title XVIII of the Social Security Act, classified by participating and non participating physicians, by assigned and non-assigned claims, by specialty, and by geographic area."

In preparing this report, the Department determined that the use of DRGs to determine physician payments should not be evaluated in isolation. Rather, DRG-based payment would be assessed as one of several alternatives for reforming physician payment and, further, physician payment reform would be set in the broader context of overall Medicare payment reform. Thus, while this report provides specific information regarding the feasibility and advisability of DRGs for physicians, the emphasis is on giving the reader an overview of available choices for reforming Medicare's payment systems and an appreciation of the relative merits of these choices.

2. CONTENT OF REPORT. This report discusses critical issues in Medicare payment reform and lays out the alternatives for reforming Medicare's way of paying physicians. The strategy addresses three primary goals:

--controlling the growth of Medicare outlays for physician services,

--maintaining continued access to needed quality health services, and

--discouraging transfer of burdens to beneficiaries,

and places special emphasis on using competitive mechanisms to achieve these goals.

In the past, these goals would have been incompatible, but the recent successes of Medicare and other purchasers and insurers in containing hospital costs, combined with the growing supply of physicians, suggests that all three goals may be at least partially attainable. The strategic approach which follows from these findings rests

on using capitation of hospital, physician and other services to take advantage of an increasingly competitive marketplace for medical services. The overall conclusions of the report can be summarized under five major issues: the pricing of individual services, physician DRGs, capitation, access to care and assignment, and the impact of the freeze. The remainder of this summary lays out the central conclusion that the most effective payment strategy for Medicare is rapid movement to control costs through competitive consumer choices between capitated systems. As an interim measure, Medicare should implement a number of steps to refine payments for individual services. One approach to prospective payment for all physicians services to inpatients, physician DRGs, was examined in depth. It was found that such a payment system might generate a complicated administrative system of uncertain impact on physicians and beneficiaries. However, because inpatients rarely are able to select the physician to perform radiology, anesthesiology and pathology services, and to reinforce the incentives of the hospital prospective payment system to eliminate unnecessary and inappropriate services, the Department has developed a prospective payment proposal for these services.

a. PRICING OF INDIVIDUAL SERVICES. A substantial consensus now supports revising Medicare's current system of determining payments for physician services. By law, Medicare now bases its payment for a service or procedure on the charge which carriers determine to be "reasonable": an amount which is the least of the submitted charge, the physician's customary charge, and the prevailing charge for similar services, or an "inherently reasonable" charge. Year-to-year growth in the prevailing charge is further limited by an index of inflation called the Medicare Economic Index (MEI), which is based on physician practice costs. Because Medicare's Customary, Prevailing and Reasonable (CPR) system involves many

calculations and comparisons by the carrier, physicians occasionally and patients often may be uncertain as to what charge Medicare will allow and may have to contact the carrier in order to obtain this information. Furthermore, CPR:

-- Encourages physicians to increase charges to secure more favorable future reimbursement.

-- Puts no pressure on charges to fall back when services and procedures become less costly to provide.

-- Rewards introducing new, expensive technology.

-- Encourages performing technologically-based procedures rather than more routine services such as physical examination and careful history-taking.

-- Supports specialization by paying premium prices for procedures when they are performed by specialists.

-- Creates price differences between geographic areas and between inpatient and outpatient services which encourage doctors to locate in urban areas and to provide inpatient care.

-- Rests on an assumption that physicians usually receive their submitted charges even though discounting is quite prevalent.

One of the choices which the Department examined carefully is replacing the CPR

system with a fee schedule or relative value scale*. Because submitted charges for the current year would no longer influence the following year's payments, the shift to a fee schedule would eliminate a major inflationary incentive of the CPR system. Instead, payments would be updated on the basis of an index such as the (MEI) or more competitive measures. Such a system could assist in the task of correcting mis-priced procedures, inappropriate rewards for using technology, and inappropriate specialty, geographic, and location of service differentials.

The Department found, however, strong arguments against implementing a fee schedule as a basis for payments:

-- A fee schedule would be inherently anti-competitive and would reduce both competition in the medical marketplace and Medicare's ability to take advantage of competition.

-- A fee schedule would have little inherent power for controlling Medicare outlays because it does not address (provides no control of) service volume and intensity.

-- To the extent that a fee schedule or RVS differed substantially from existing Medicare payment practices, it would require a lengthy development period which would probably overlap the general implementation of capitation payments for Medicare beneficiaries.

*A relative value scale or RVS is a table of weights which defines the relative payments or relative prices for different procedures; a conversion factor, in turn, changes the relative values into dollar prices and thus converts an RVS into a fee schedule.

- The relative redistributions of fee schedules might place unnecessary burdens on beneficiaries.

- In some cases it appeared that a fee schedule would result in higher payments; there was no evidence that such increases were necessary or would result in better care for beneficiaries; they could increase beneficiary out-of-pocket expenses.

- Most of the problems with the CPR system can be corrected directly through refinements.

- In the absence of firm data to predict the impact of a fee schedule on Medicare outlays, access to care, and beneficiary liability, the more conservative approach of incremental refinements appeared more prudent.

The Department therefore concluded that a series of specific refinements of the CPR system was preferable to a fee schedule or RVS.

The Administration's 1988 budget includes legislative proposals which will

- Establish more reasonable payments for cataract surgery;

- Revise Medicare payments to new physicians by limiting their customary charges to 80 percent of the prevailing charge;

-- Reduce inequities in Medicare payment rates that have evolved over time and are not explained by differences in practice costs;

-- Limit specialty differentials in Medicare prevailing charges for those services where there is large disparity in a locality;

Chapter 2 of the report describes issues associated with changing payments for individual services.

b. DRG-BASED PAYMENTS FOR PHYSICIAN INPATIENT SERVICES. Determining physician payments for inpatient services on the basis of DRGs holds a prospect of controlling costs and increasing efficiency. The key idea in using DRGs to determine payments for all or some inpatient physician services is that Medicare could control costs and encourage efficiency by paying an amount determined in advance for all the physician services provided during a hospital stay. This method of "bundling" services together and paying a lump-sum price is closely analogous to the strategy enacted by Congress for a PPS for hospitals.

Careful analysis by three investigators has shown that DRGs could be used to determine payments for inpatient physician services. However, a number of decisions would have to be made. For example, pooling the financial risks of individual cases at the hospital or medical staff level might help to insure fair payments to providers and patients--a pooling of risk similar to that now made at the hospital level in the hospital PPS.

Payments could be made directly to the medical staff of each hospital. However, depending on precise design specifications, such a system might significantly increase average liability for beneficiaries, increase the vulnerability of beneficiaries, or be administratively cumbersome. One theoretical approach to preventing this outcome would be to require mandatory assignment for inpatient services, an approach which the Administration strongly opposes as having significant practical and philosophical problems. Another approach would be to establish a limit on the amount of extra billing as is done in the Omnibus Budget Reconciliation Act of 1986 which established a limiting charge on procedures where a reduction has been made under inherent reasonableness in prevailing charge levels.

Finally, bundling may be less necessary for controlling physician inpatient costs than for controlling hospital costs. There is evidence that hospital prospective payment already provides a number of the desired incentives by inducing hospitals to control those physician services which have associated hospital costs. For example, decreases in hospital length of stay can decrease the number of daily hospital visits and decreases in numbers of X-rays can decrease radiologist bills for interpretation.

Another approach to the bundling strategy recognizes that the relationships physicians providing radiology, anesthesiology, and pathology (RAP) services have with hospitals and patients are different from those of the patient's attending physician or surgeon. Traditionally, the physicians furnishing RAP services maintain a hospital-based practice and have a contractual arrangement or other close relationship to the hospital. Their relationships with individual patients are distinctive from those of attending physicians in several ways: usually, the patient has no opportunity to select these physicians, their services are dependent upon the attending physician's orders or decision for surgery, and their care for the patient

ends with discharge. In contrast, the surgeon or other attending physician's responsibility for care of a patient often begins prior to admission and almost always includes post-discharge followup care. The unique relationships make a DRG-based payment for RAP services more feasible and advisable than one for all inpatient services. Hence, the Administration is developing a proposal for a DRG-based payment for RAP services furnished by physicians to hospital inpatients.

Another straightforward way to control these costs is either to pay less for the services or, even more effective, to avert unnecessary admissions; the latter approach is one goal of Medicare's system of Peer Review Organizations (PRO), but capitated systems have been effectively accomplishing this goal for years. DRG-based physician payments are discussed in chapter 3 of the report.

c. PRIVATE HEALTH PLAN OPTIONS. The Administration's goal is to offer an increasing fraction of beneficiaries and providers private health plan options paid by capitation--that is, making payment to systems which accept a single payment, determined in advance, for all care which a beneficiary may require during a year. Such systems are a proven method for delivering quality care efficiently and have been endorsed by the Administration and Congress. The major task for Medicare is focusing on approaches designed to expand Medicare beneficiary choices as rapidly as possible. This goal is not confined to physician payments--the intent is to include all covered services; nor does capitation imply that all beneficiaries must enroll in a Health Maintenance Organization (HMO). Rather, the Administration is pursuing a two-pronged strategy for increasing the number of beneficiaries under capitation:

(1) TEFRA INCENTIVES. In P.L. 97-248, the Tax Equity and Fiscal

Responsibility Act (TEFRA), Congress created important incentives for enrollment of Medicare beneficiaries in HMOs and Competitive Medical Plans (CMPs), which would receive a single payment, set in advance, for all covered services provided to the patient during the year. These incentives are expected to result in enrollment of a growing number of Medicare beneficiaries in capitated health care systems. Further research on pricing and administrative mechanisms is in progress.

Nevertheless, expecting all Medicare beneficiaries to enroll in HMOs and CMPs is an unrealistic short-run goal in the pluralistic United States health care system. Medicare therefore needs to develop and demonstrate ways to expand capitated payment alternatives for beneficiaries as well as providers and insurers of care.

(2) "Expanding Consumer Choice" is a term for systems in which additional opportunities for enrolling in prepaid systems is available for beneficiaries beyond those which currently qualify as HMOs or CMPs. Designs vary, but a typical system makes it possible for a beneficiary to enroll in a plan run by an insurance underwriter which accepts the risk of paying for the Medicare benefit package. The purpose is to increase the number of beneficiaries under capitation by expanding the number of capitated plans in which beneficiaries can enroll. The Administration will be submitting an FY 1988 proposal for expanding the choices available to Medicare beneficiaries.

HCFA and its grantees are currently identifying the issues for design and implementation of demonstrations which would extend beyond the

Administration's legislative proposals.

Capitation is discussed in Chapter 4 of the report.

d. ACCESS TO CARE AND ASSIGNMENT. The most important potential obstacle to beneficiaries' access to care is the risk that physicians will regard Medicare payments as inadequate and will bill beneficiaries for additional amounts, which will make beneficiaries reluctant to seek needed care. Thus, physicians' acceptance of Medicare's approved charge as payment in full (also called accepting assignment) is important protection for beneficiaries.

The Medicare Participating Physician (MPP) system, created by the Deficit Reduction Act in 1984, permits physicians who agree to accept assignment on all Medicare bills to identify themselves as MPPs and to receive certain other advantages in billing and in future fee screen updates. The MPP program, in concert with market forces, has resulted in a dramatic increase in the rate of acceptance of assignment, and this increase has occurred despite a freeze on Medicare approved charges. Although increases in assignment rates have plateaued and the percentage of physicians in the MPP program is not now increasing, physicians now accept assignment on more than two-thirds of all claims. This assignment rate makes proposals for mandatory assignment inappropriate.

The MPP program is voluntary and it promotes competition and beneficiary choice in the marketplace. The MPP program is therefore highly preferable to mandatory assignment as a way to provide beneficiary financial protection.

e. PHYSICIAN RESPONSE TO THE FREEZE. Preliminary data on physician response to the freeze are ambiguous. Many other changes in Medicare which may have affected physicians' spending were also occurring at the same time, including the hospital, PPS rebundling of nonphysician services provided to hospital inpatients, hospital-based physician changes, laboratory reimbursement changes, and conversion to a common coding systems. Physician payments comprise about 85 percent of charge-based payments by Medicare's Part B. While the rate of increase in charge-based outlays during the period of the freeze was lower than the rate of increase in the same quarter prior to the freeze, the rate of increase has been accelerating during each quarter of the fee freeze. The rate of increase in charged-based outlays during FY 1985 was 12.0 percent. After adjusting for enrollment increases and increases in outlays for nonphysician services, the resulting rate of increase in utilization/intensity during FY 1985 was 6.6 percent. This estimated utilization/intensity increase is close to the average utilization/intensity increase experienced during the previous five years (7.1 percent), higher than the rate for the previous ten years (5.7 percent) and twice the rate of the previous year (3.3 percent). However a detailed analysis of claims from 9 carriers did not show significant increases in either average charge per service (a measure of increased intensity) or number of services per use. The impact of the freeze is discussed in an appendix to this report.

3. SUMMARY OF RECOMMENDATIONS. This report suggests the following key elements in a strategy for reforming Medicare physician payments:

-- a fundamentally pro-competitive posture, which treats the growing supply of physicians as an opportunity to promote effective competition and which will ultimately transform Medicare into a capitated payment system,

-- a strategy focusing on giving Medicare beneficiaries and providers the option of participating in the program through private health plans,

-- development of prospective payment for physician RAP services to inpatients,

-- refinement of the current method of determining payments for procedures to make those payments more efficient and equitable, and

-- careful monitoring of rapidly changing trends in Medicare payments to determine whether the existing program should be further modified.

CHAPTER ONE

THE PROBLEM OF MEDICARE'S PAYMENTS TO PHYSICIANS

1. BACKGROUND. This is a report on changing the way in which Medicare pays for physician services. The Social Security Amendments of 1983, which enacted the Medicare hospital PPS, had required that the Secretary report on "the advisability and feasibility of...determining the amount of payments for physicians' services furnished to hospital inpatients based on the DRG type of classification of the discharges of those inpatients."(P.L. 98-21, sec. 603). The Deficit Reduction Act of 1984 directed that this report be delivered by July 1, 1985 and also directed that the Secretary provide at the same time "recommendations in sufficient detail to serve as the basis for legislative action which Congress can take to assure that any burden of effectively constraining the growth of costs in the medicare part B program, which Congress intends to be borne by providers and physicians, is not transferred (in whole or in part) so as to become an additional burden on part B beneficiaries in the form of increased out-of-pocket expenses, reduced services, or reduced access to needed physician care." (P.L. 98-369, sec. 2306).

This report lays out and analyzes the choices which Medicare must make in reforming its way of making payments to physicians and addresses three primary goals:

- -- control the growth of Medicare outlays for physician services,
- -- maintain access to needed health services, and
- -- discourage transfer of burdens to beneficiaries.

In circumstances which have prevailed since Medicare began, these three goals would be incompatible, but the growing demands of all insurors for containment of medical costs combines with the growing supply of physicians to make all three goals largely achievable. In fact, a revolution is taking place in health insurance. Ten years ago, health insurance was more like other kinds of insurance--its most important functions were to pool risks so that individuals did not suffer unmanageable losses and to make payments for losses in a prudent manner. But today, purchasers of health insurance, particularly corporations and governments, are demanding that health insurors become prudent purchasing agents for purchasers and beneficiaries. Insurors are now expected to assure that their beneficiaries receive a mix of services which is conservative, appropriate, and medically necessary, and to use their bulk purchasing power to secure those services at the lowest price consistent with quality care.

Medicare has played a leading role in this revolution. In 1983, Congress legislated Medicare's hospital PPS, which radically changed Medicare's health insurance role. The idea of prospective payment, and the DRG system on which is was based, was itself a major development because PPS and DRGs used technically innovative approaches to determining payments. But more important was the change in Medicare's fundamental position: from a payor of whatever costs were incurred to a prudent purchaser which would use its great purchasing power to influence the efficient provision of services and to secure increasingly favorable prices.

Early in preparing this report, the Department determined that the use of DRGs to determine physician payments would not be evaluated in isolation. Rather, the Department decided to set DRG-based payment in the context of the larger set of choices for physician payment, choices which could be judged by their ability to make the Supplementary Medical Insurance Program (Medicare Part B) a prudent agent for both beneficiaries and the government in the same way in which PPS had made Part A a prudent agent in purchasing hospital services. The Department decided that, whether or not using DRGs for physician payment was advisable, DRGs should be considered only as part of a strategy for reforming Medicare's physician payments. This report therefore provides specific information regarding the feasibility and advisability of DRGs for physicians. The report sets this information in the broader context of choices for reforming Medicare's payments to physicians but it does not make legislative recommendations. The Department also concluded that, despite the importance of benefit design and utilization review, these strategies would not be sufficient to address the problem of physician payment and that they would not be a part of this report.

The Department decided, then, that whether or not using DRGs for physician payment was advisable, DRGs should be only a part of a strategy for reforming physician payments. Thus, it was necessary not only to consider reforms based on such alternatives as fee schedules, RVS, DRGs, and capitation but also to consider changes which might be necessary to discoverage transfer of burdens to beneficiaries. Two important facts became clear:

-- While no one option is fully satisfactory, a number of options taken together could form the basis of a powerful strategy for containing costs of Part B services both to the government and to beneficiaries.

-- Any program to reduce Medicare's costs risked transferring those costs to beneficiaries unless coupled to a policy to discourage such transfers.

The Department is particularly conscious of Medicare's obligations to serve as a prudent agent for beneficiaries. Beneficiaries have paid about 7.5% of the cost of covered services under Part A (Gornick et al. 1983). But beneficiaries have been liable for almost half of the cost of covered services under Part B (Figure 1.1, Table 1.1) through premiums, deductibles, coinsurance, and liability for charges above what Medicare determines to be reasonable. Not only is the dollar burden on beneficiaries more than three times greater under Part B than Part A, but there is greater risk that reducing Federal outlays will increase beneficiary burdens. This is so because physicians and other Part B providers generally can and often do bill beneficiaries when Medicare pays less than the physician's charge.

This report is organized into a discussion of the problem and discussions of four general approaches to solving it. The present chapter provides an outline of the facts which the reader will need to understand the problem of Medicare's payments for physician services, including recent trends in the health care system. Understanding these trends is central to understanding the analysis which is developed in the following chapters because change is now occurring so rapidly that the uncertainties of the present situation strongly influence the choice of strategies.

The discussion includes such events as the recent decline in growth of payments to physicians, changes in use of hospitals, and growth of alternative health delivery systems.

This overview of recent trends is followed by a review of the structure of the present Medicare reimbursement system and the incentives which that system creates. This chapter concludes by setting out goals for a reform of Medicare payments to physicians. Chapters 2, 3, and 4 are about paying for services in increasingly large "bundles". Chapter 2 discusses the setting of prices for individual services, chapter 3 discusses paying for all physician services during an inpatient stay as a single bundle (physician DRGs), and chapter 4 discusses paying for all services during a year as a single bundle (capitation). The central idea in bundling is that paying for larger units of service will encourage physicians to control the growth in volume and intensity of services which accounts for almost half of the increase in the Medicare physician payments.

2. THE MEDICARE BUDGET. The starting point in considering reform of Medicare's physician payments is understanding current expenditures by both Medicare and beneficiaries and the forces which shape them.

a. RECENT TRENDS. Part B is one of the fastest-growing non-defense programs. In contrast to Medicare Hospital Insurance (Part A) and Social Security, which are financed almost wholly from separate payroll taxes paid into separate trust funds, 77% of Part B funds comes from general revenues (Board of Trustees 1985).

In 1984 Medicare paid $19.5 billion for Medicare Part B services. Part B expenditures grew from $10.1 billion in 1980 to $17.5 billion in 1983, an annual rate of 19.9%; this was even more rapid than the 16.0% growth in payments from the Hospital Insurance program (Part A) during the same period. In 1984, the growth of Part B moderated abruptly to an annual rate of about 11.4% (Table 1.2). In the period from October 1983 to June 1984 (from the beginning of implementation of the hospital PPS to the beginning of the physician price freeze for Medicare beneficiaries), the rate of change from the previous year was 13%. A further decrease occurred with the freeze. The increase in charge-based Part B payments (this excludes hospital outpatient department services) from July 82 -June 83 to July 83 - June 84 averaged 14.1%; from July 83 -June 84 to July 84 -June 85 the rate of increase averaged 9.3% (see Appendix, Table 1). Possible causes of these changes are discussed below.

Although Part B is often discussed as if it were synonymous with physician services, it contains several components which are not directly treatable as physician services. Of the $19.5 billion 1984 payments, an estimated $14.9 billion was for physician services. The remaining estimated $4.5 billion went primarily to non-physician services of hospital outpatient departments, but also to independent laboratories, medical suppliers, and home health agencies. Although these components are important, comprising 23% (Table 1.2) of the Part B budget, and they have generally shown faster growth than physician services (Tables 1.2 and 1.3), they are not the subject of this report.

The growth of Medicare physician services expenditures has four components--growth in the number of beneficiaries, an increase in general prices (general inflation), a further increase in average price per service above the rate of general inflation, and an increase in number or intensity of services (Table 1.4)*.

Available data do not allow a sharp distinction between increased price and increased intensity of service. Some increase in price results from substituting more expensive for less expensive services (e.g: substituting cataract removal with lens implant for removal without implant). Other increases in price result from providing a larger number of separately billed services to accomplish an unchanged therapeutic goal. Still other increases result from increase in the number of separate codes on a bill when the number of services is unchanged. Put another way, some of these services are new services for new therapeutic purposes, some are additional services for the same therapeutic purpose, and some are simple changes in billing which makes treatment appear to include more activities.

*Medicare's data in this area (Tables 1.4, 1.6, and 1.8) have several limitations, especially for earlier years, because coding was variable, as was reporting by individual carriers. In addition, there were major system changes which cannot be accurately measured. Data about specialties depend on self-reporting by physicians; while it is possible to determine changes in the number of physicians identifying themselves to Medicare in certain specialties, it is not possible to determine whether changes are attributable to entry and retirement from the specialty or to changes in self-identification. Data on location of service were often inaccurate during the 1970s, and even more recent reporting is distorted by the fact that varying numbers of services are included in hospital bills, which do not enter these tables. Ratios from these data, such as charges per service, are likely to be most reliable while absolute numbers are likely to be least reliable. The data have been subjected to exponential smoothing. These tables must be treated with caution, but are the only available information on the issue.

The growth in volume/intensity may be estimated as the total growth in outlays, less growth in enrolled population and growth in prices. One can use several estimates of growth in price (Table 1.5) and get very similar estimates of the relative role of growth in price and growth in volume/intensity of services. It is reasonable to assume that average payments for individual procedures now move up a little faster than the MEI (see section 6.a, below), since the majority of physician payments appear to be limited by the MEI (HCFA 1984b); there are no satisfactory data on this last point. Using any of the above inflation indexes, about 12% of annual growth in Part B expenditures is attributable to increase in the number of beneficiaries; about 41-42% to growth in prices; and about 46-47% to increase in the volume and intensity of services.

The increasing beneficiary population and volume/intensity of services mean that the freeze on Medicare charges to Medicare beneficiaries can control less than half of growth in outlays . Part B outlays increased 12% in fiscal year 1985 despite the freeze (Board of Trustees 1986). There is evidence that physicians have historically responded to freezes or relative decreases in payment by increasing the volume and complexity of services for which they bill (Holahan et al. 1980, Holahan 1985, Rice & McCall 1982b), so the actual increase might be even higher. Reports from the first year of the freeze indicate an annual increase of 7.7% but these data are confounded by so many simultaneous events (see below) that it is difficult to discern the underlying trends. Nevertheless, historical experience would suggest that a policy which affects prices alone cannot be counted upon to fully control the increase in physician payments (the question of whether physicians actually can increase volume of services in the way suggested is discussed further in section 7 of chapter 2).

Medicare physician outlays appear to have grown at different rates in different locations of service. Through 1983, the growth of payments for inpatient physician services was slightly faster than growth of payments for office charges but was significantly less rapid than growth of payments for physician services in outpatient settings (Table 1.6). This growth in outpatient hospital services was limited to surgical services and probably reflects the growth of ambulatory surgery. About 1982, the change in location of service became more rapid (Table 1.7). Satisfactory data to analyze this change in detail are not available, but information from Part B bill payment records shows a consistent and striking trend away from inpatient service. The data in Table 1.7* indicate that the fraction of services rendered on an inpatient basis declined from about 68% to about 58% over two years. When combined with the data on overall Part B trends described earlier in this section, this means that payments for inpatient services have been almost level over the last two years. These data on location of service must be interpreted with care because several changes in reporting may have created an artificial appearance of change. At the implementation of PPS on October 1, 1983, physicians who had previously submitted combined bills for their services as part of hospital services were required to submit separate bills. Combined bills had not previously been entered into

*Bill payment records overstate inpatient services because a bill which contains services provided in several locations is coded as occurring entirely in the location of the most expensive service. This is probably the reason for the discontinuity between percentages of service identified as inpatient in Tables 1.6 and 1.7. Total quarterly expenditure figures from this system vary considerably because the system classifies expenditures according to the date the bill payment record was received in HCFA rather than the date of service. Percentage figures as to location of service should be reliable. It is not certain whether the growth in ambulatory surgery represents growth in the absolute amount of surgery performed or a substitution of ambulatory for inpatient surgery.

this system; the location of most combined bills was inpatient, though some were outpatient hospital, so the apparent volume of inpatient services should have risen when location was reported.

On the other hand, the apparent volume of inpatient services may have decreased because many inpatient services which had been billed to Part B as physician services were defined as hospital services by TEFRA (P.L. 97-248) and were no longer billable to Part B. On balance, the apparent shift from inpatient location of service to outpatient hospital and office is consistent with growth in ambulatory surgery and with a decline in hospital admissions and length of stay which has been seen in all sectors. Nevertheless, an absolute majority of Medicare's physician payment dollars still go for inpatient services.

The growth of total payments to physicians has not been uniform across types of service or specialties. The lowest growth rate has been for medical care, with rates for other activities much higher (Table 1.8). Highly technical fields such as cardiology and ophthalmology have shown greatest growth while general practice and internal medicine have shown least. Table 1.4 shows that general surgery has also grown less than surgical specialties. These changes do not appear to result from changes in the number of physicians in these specialties: although the number of general practitioners has declined, the number of family practitioners has risen, as has the number of internists.

b. POSSIBLE CAUSES OF 1984 DECELERATION. As noted above, year-to-year growth in the last half of calendar 1984 was almost 10 percentage points less than in the corresponding half of 1983. Although fully decomposed

figures are not yet available, at least seven forces must be considered as possible causes:

-- Change in the Underlying Rate of Inflation. The rate of inflation slowed sharply in 1982-1983 while the rate of increase in physician payments did not drop until early 1984. Several factors may account for this response lag, the most important being that the influence of inflation on prevailing charge screens (see section 6) is mediated by the MEI and takes about a year to be effective.

-- Hospital Prospective Payment. PPS has been accompanied by dramatic changes in physician and hospital behavior. A day's reduction in average length of stay means about one less routine hospital visit for every admission on which such visits are billed. If physicians are also ordering fewer tests and procedures, the physician charges associated with those activities are averted. The shift in location of growth of physician services described earlier is consistent with this explanation. Finally, when physicians shift the site of service from inpatient to outpatient they generally encounter somewhat lower reasonable charge screens for visits, though not for other activities. The shift in location of service described above is consistent with this explanation, although it is notable that the trend began before PPS was implemented and may therefore reflect other trends as well. (A detailed description of PPS and its implementation is found in "The Impact of the Medicare Hospital Prospective Payment System: 1984 Annual Report" (HHS 1985). Some further information will be found in chapter 3).

-- The Fee Freeze. The fee freeze contained in the Deficit Reduction Act (P.L. 98-369) became effective on July 1, 1984. The freeze cancelled the 1984 annual fee screen updates, which would have occurred in July and forestalled increases in customary and prevaling charges.

-- Redefinition of Physician Services. As noted above, TEFRA shifted the payment of some inpatient physician services (e.g., supervision of clinical laboratory services) from Part B to the DRG payment made under Part A. Other non-physician inpatient services, such as intraocular lenses, pacemakers, and services of independent laboratories, which could have been billed to Part B during the hospital stay, also were defined as hospital services and were required to be paid by the hospitals from the DRG payment.

-- Slower Claims Processing. The shift to direct billing by laboratories, along with other administrative requirements, increased the average processing time from 9.9 to 16.0 days between October-December 1983 and January-February 1984 (HCFA 1985a). This increase alone would have reduced year-to-year expenditure comparisons by about 1.4%. If the growth in electronic billing (submission of bills on electronic media rather than paper) has been primarily in claims of smaller dollar size, the effect of processing delays may have been even greater since the growth in processing time would have been primarily in large claims.

-- The AMA Fee Freeze. The AMA call for physician fee restraint may have had an effect on physician behavior, particularly in reducing the rate of charge increase during the first half of 1984.

-- The Effects of Competition. Increasing competition among physicians, due both to increasing numbers of physicians and to changes in behavior of purchasers of physician services may be moderating a number of trends (see further discussion in section 5). In particular, competition may be limiting physicians' ability either to increase their fees or to provide an increasing volume of services.

No one force is likely to explain all of what has occurred. Because most of the likely causes are one-time events, it is difficult to predict that the moderation will continue. Thus, even with increase in price per service under the short-term constraint of the freeze and under the long-term constraint of the MEI, growth in volume and intensity of services promises to remain an important issue for Medicare.

c. BENEFICIARY LIABILITY AND ASSIGNMENT. Beneficiary liability has risen steadily from 1975 to 1985 (Table 1.1). Although beneficiary share of total liabilities for covered services fell slightly over this period, total beneficiary liability rose 13.7% annually--significantly above either general inflation or the rate of increase in Social Security payments to this population. Very recent data are available on whether physicians accept assignment--that is, whether they agree to accept Medicare's reasonable charge as payment in full for their services. The assignment rate began to rise in 1978 and the rise accelerated sharply in the last 2 years (Table 1.9). Comparing the increase in total claims from July-September to October-December 1984 with the increase in assigned claims permits an estimate of the sources of the change in assignment rate. Of the 6.4 percentage point increase, about 1.1 points appears to be part of an established trend, about 2.1 points appears to result from the shift to direct assigned billing by independent laboratories, and about 3.2 points to a sudden change in the trend which is probably traceable to the MPP program (see below). An especially impressive change is the growth from 64.6 per cent to 67.3 per cent acceptance of assignment from October-December 1984 to January-March 1985. Since no new physicians became MPPs during this period, the rise suggests that the MPP program may have accelerated the trend of increased acceptance of assignment. This rise in acceptance of assignment may be partly an artifact, since many physicians who submitted combined bills with hospitals are now billing independently. They accepted assignment in the past and were not counted in such statistics, but they are now counted. This rise in acceptance of assignment is significant in two ways:

— A growing number of beneficiaries are protected from the liability caused by physician charges higher than Medicare approved charges (see chapter 5).

— A growing number of physicians are offering Medicare a discount which averages 25%—the difference between the average submitted charge and the average approved charge (see chapters 2 and 5).

— Although previous research has shown that assignment rates rise with higher Medicare payment rates, assignment rates have risen sharply despite a freeze which would have been expected to lower acceptance of assignment (see chapters 2 and 5).

3. AN INTERNATIONAL PERSPECTIVE. Rapid growth in both volume and cost of services is not a peculiarly American problem. Every developed country which has retained fee-for-service medicine is experiencing similar pressures and is struggling to find adequate solutions. No country appears to have found a solution which is really satisfactory (Reinhardt 1985, Holahan 1985, Schieber & Poullier 1985). Many countries with capitated or salaried physician payment systems are also experiencing pressure from increasing costs, which are seen as shortages of personnel, queues, or increases in total budget.

Reinhardt (1985) has recently completed a comprehensive comparison of the United States with five foreign physician payment systems. The United States is unusual compared to most European countries and Canadian provinces in that Medicare

accounts for 19-29% of physician income, depending whether one counts the beneficiary share of payments (see Gibson et al. 1984 and Table 1.1 for data used for this calculation). In most other countries the national health insurance program accounts for 80-90% of physician income. Nevertheless, there are useful comparisons with other fee-for-service countries he studied:

-- Compared to those countries, the United States clearly has the most heterogeneous system.

-- No other country studied relies on market mechanisms to determine payments to individual practitioners by national health programs. In Canada and Europe, fee-for-service systems generally use an RVS or fee schedule to determine basic prices. When RVS are used, they tend to be produced and updated by organized medicine rather than the government, while the actual payments and the rates of increase in those payments are under control of the government or quasi-governmental agencies.

-- Almost every other country has developed a formal mechanism for negotiation between the government and physicians.

-- No other country has in place a system based on DRGs.

-- Despite movement in many countries to treat specialists and non-specialists more equally, some distinctions generally remain.

-- Most other countries do not rely as heavily as does the United States on fee-for-service practice within hospitals.

-- An important part of the foreign experience is a relatively widespread use of fee schedules or RVSs to hold expenditures to a target budget. What this method does is to preserve the relative payments for different services while adjusting the absolute amount of payments for services. Sometimes, as in Ontario and France, this is done by negotiation; in such negotiations the target budget may not be explicit, but the relationship of growing volume/intensity of service to the payments which will be allowed is evidently part of the negotiation. In other arrangements, such as the German Federal Republic and Quebec (Reinhardt 1985), the projected or actual volume of services is part of a mathematical calculation which determines how much can be paid for each service within a target budget. In these calculations, if volume of services rises beyond expectations, then per-service fees fall so that total expenditures are kept at the budgeted level.

-- Policies vary widely on the extent to which physicians can bill patients for amounts above those paid by the government program, although Medicare is at the most flexible end of the spectrum.

-- Behind these variations in policy is an even wider variation in the nature of medical practice in different countries which makes generalization and comparison exceedingly difficult. For example, physicians in West Germany provide their patients more than twice as many services per

capita as do those in the United States, but these services include very short office visits which are difficult to compare with those in this country.

While these generalizations do not identify the directions which the United States should take, they limit the areas in which it can look for guidance. For example, while foreign examples do not prove that the United States should adopt a national RVS or fee schedule, it is clear that we cannot look abroad for examples of how the current market-based system might be refined.

4. THE CHANGING U.S. ENVIRONMENT. Reforming Medicare physician payment is especially challenging because of rapid changes in the United States health care environment. These changes may make putting a reform in place easier than would be the case in a more stable milieu, but they also make predicting the future difficult even in the absence of reform and make predicting the impact of reform even more difficult. Eight kinds of environmental change are especially notable: implementation of hospital prospective payment, change in Medicare law, growth in the nation's supply of physicians, growth of HMOs and prepaid health plans, more aggressive purchasing practices by employers and third parties, growing pressure to reduce regional practice variation, technological change, and concerns over malpractice.

a. PPS IMPLEMENTATION: Implementation of PPS has been accompanied by a very sharp acceleration of the historical trend to decreasing length of stay (Table 1.10, Figure 1.2), and the absolute number of hospital admissions has also fallen (Table 1.11, Figure 1.3); empty beds have spurred competition between hospitals,

and a number of sources have predicted that perturbations due to PPS and private sector efforts will increase in coming years (CBO 1984).

b. CHANGES IN LEGISLATION: The laws affecting Medicare payments to physicians have changed and are changing rather rapidly:

-- Congress mandated this report on applying DRGs to physician payments when it passed the PPS for hospitals. The legislative history indicates that Congress was interested in whether the same restraints which PPS was applying to hospital payments could be applied to physician payments and was also interested in aligning the incentives of physician payment with those of hospital payment in order to make the PPS incentives stronger.

-- In June 1984, as part of the Deficit Reduction Act (P.L. 98-369), Congress passed a fee freeze for physician services to all Medicare beneficiaries, and created the MPP program.

-- At the same time, Congress moved the due date of this report from December 31, 1985 to July 1, 1985. The same legislation expressed Congress's intention that "the burden of effectively constraining the growth of costs in the medicare Part B program be borne by providers and physicians and not be transferred (in whole or in part) so as to become an additional burden on Part B beneficiaries in the form of increased out-of-pocket costs, reduced services, or reduced access to needed physician care."

-- In TEFRA, Congress also created the statutory basis for a system of CMPs which would provide health services to beneficiaries on a capitation basis, in a manner similar to but less narrowly defined than HMOs. The regulations to implement this legislation became final in January 1985 and a large number of organizations are believed to be readying CMPs for marketing.

-- In COBRA, Congress extended (through April 30, 1986) the freeze on customary and prevailing charges and on the actual charges of nonparticipating physicians, through December 1986, changed participation and update cycles, and gave physicians the opportunity to reexamine participation decisions.

-- In OBRA, Congress differentiated payment levels for participating and nonparticipating physicians, set a limit on maximum allowable actual charges for nonparticipants, provided additional incentives for participation, and established criteria for inherent reasonableness determination.

c. GROWTH IN THE NUMBER OF PHYSICIANS: The nation's number of physicians per capita has increased 2.4% per year for the past 8 years and is expected to rise 1.2-1.7% per year for the next decade (Table 1.12). There is increasing evidence of competition among physicians, although it is difficult to determine the relative role of increasing physician supply and growing consumer/insuror resistance to increasing prices. Evidence of competitive behavior includes the formation of Preferred Provider Organizations (PPOs); a sharp increase

in growth of HMO enrollment (Table 1.13); evidence that physician income is advancing very unevenly (AMA 1984a; Owens 1984); movement of physicians to areas where they once declined to work (Newhouse et al. 1982a); steady growth in the percentage of Medicare claims on which physicians accept assignment; and anecdotal evidence that physicians coming out of training are taking jobs with lower real income than their predecessors. Evidence from several sources (AMA 1984f, Owens 1984) indicates that while income of specialties such as surgery, anesthesiology, and cardiology has stayed ahead of inflation, the income of primary care specialties has generally fallen behind inflation (Table 1.14). Further, performance of physician incomes relative to inflation has been very uneven geographically, so that it is not realistic to expect competition to have a uniform moderating effect on growth of Medicare B costs in the near future, even though competition may have dramatic effects in some specialties and regions.

Despite growing evidence of competition in many areas and specialties, average physician income is more than $100,000 and still increasing. Competitive pressures are leading some physicians to try styles of practice they might not have accepted a few years ago; the same pressures may make changes in the Medicare program more acceptable than they would have been even a few years ago. The prospect of continuing increases in numbers of physicians suggests that there will be a very adequate supply in the future.

d. GROWTH OF HMOs AND PREPAID PLANS. The growth of HMOs and other prepaid health plans has accelerated rapidly in the past two years after a decade of 10 per cent annual enrollment growth. The annual growth increased to 15 percent in 1982-1983, 20 percent in 1983-1984, and 24 percent in 1986-1985 (Table

1.13). The number of HMOs applying for Federal certification grew more than 30 percent annually from 1982 to 1984 (Bureau of Health Professions 1984b). Publication of Competitive Medical Plan regulations is expected to accelerate this growth even more sharply. In June 1986, Medicare had 667,212 beneficiaries enrolled in 137 risk-sharing capitated plans and 99,641 enrolled in 42 capitated plans which received cost-based payments.

This growth has two effects on the market: first, it increases price competition because consumers can directly compare total health care costs from a provider for a year. Such comparisons are significantly easier to make than either comparisons of charges for individual services or comparisons of insurance plans when the consumer has difficulty estimating liability from uncovered services, deductibles, and coinsurance. Second, because HMOs can and do market aggressively, they sharply increase the competition for patients. Both of these effects may also make introducing Medicare reforms significantly easier.

e. BEHAVIOR OF OTHER MAJOR PURCHASERS AND THIRD PARTIES. Major purchasers of health care, such as corporations and governments, are beginning to demand that insurors act as prudent purchasing agents, to bargain for lower prices, and to search for and use less expensive health care alternatives. These demands from purchasers have led to aggressive competition and innovative approaches to cost containment among insurors. The Blue Cross/Blue Shield Association (1985) reports that the majority of Blue Cross plans now are operating an HMO. A third of plans are now operating a PPO, a bargaining tool by which insurors secure from physicians either discounts or greater acceptance of utilization

review. Insurors also report dramatic growth in requirements for pre-admission approval of elective hospitalizations.

Competition has also led to striking changes in Blue Cross plan operations. Unpublished data also show that in 1984 the majority of Blue Cross plans experienced at least a 10% decrease in hospital days per enrollee, a 5% decrease in hospital admissions, and an absolute decrease (even without correction for inflation) of dollar outlays for inpatient care. While these figures do not provide information on physician outlays, they provide a clear picture of increased cost control activities.

To a very large extent, the results cited above result from plans using their market power to secure from hospitals and physicians a degree of cooperation which a smaller purchasing agent could not obtain. For example, Blue Shield of Massachusetts, which has long had a dominant position in the Massachusetts physician's services insurance market, reimburses only services by physicians who have agreed to accept the Blue Shield fee as payment in full.

Medicare has historically taken little advantage of its potential market power under Part B. Medicare has given considerable effort to determining whether prices are reasonable and to maintaining program fiscal integrity, but it has not limited participation to physicians with lower charges or bargained for favorable rates or demanded discounts. Since 1975, Medicare has used the MEI to limit the growth of prevailing charges and has limited carrier determination of prevailing charges to the 75th rather than higher percentiles of community charges. Medicare has also

reviewed coverage of new procedures with some care. However, Medicare has not generally sought to be an aggressive negotiator in the purchase of services for its beneficiaries.

These features of Medicare law may appear imprudent in retrospect, but they were designed in 1965 to attract physician support and participation to the program, and they have been followed and even extended by large insurors and large corporations as well. However, recent change has been rapid, and in some markets insurors which require physicians to accept assignment or aggressively market PPOs secure more price concessions than does Medicare. At least in those markets, Medicare may be able to pursue an increasingly aggressive strategy without compromising its beneficiaries' access to physician services.

f. REGIONAL PRACTICE VARIATION. Increasing attention has focused on variations across regions and within regions as to the frequency with which patients are admitted to hospitals for various problems (Wennberg et al. 1984) and the mix of services provided during those admissions. Outpatient treatment practices, though less well documented, appear to vary as much. Although it is difficult to reach definitive conclusions, there is little evidence that the lower cost patterns of treatment are less effective than the higher cost approaches, and it seems increasingly likely that major savings can be achieved by bringing national practices into line with the most efficient patterns. This thinking was central to the decision that PPS would move toward national rates for hospitals. It is difficult to predict the impact of this strategy on the provision of physician services, but an increasing number of insurors and employers are beginning to focus on the possibility of achieving savings by reducing practice variations. Reducing practice variation is an

important potential source of savings if DRGs are used to determine payments for physician inpatient services (chapter 3).

g. TECHNOLOGY. Technological change is continuous. Nevertheless, the rapidity of change poses significant challenges to any program intended to contain physician payments. Some commentators (Schwartz 1984) argue that change is essentially exponential and will therefore outrun any financing system and eventually compel rationing. Others reject this argument and believe that increasing emphasis on efficiency, prevention, and competition can permit medical care to incorporate technological changes without unacceptable increases in medical care's share of the gross national product. The critical effect of change, however, is that it constantly restructures the system in which cost containment is attempted. For example, movement of procedures to outpatient settings reduces costs but also frees the procedures from the constraints of hospital admissions review. Improving laboratory technology has produced highly sophisticated machinery for physicians' offices just when PPS has restrained hospital investment in similar devices.

h. MALPRACTICE. The role of malpractice litigation in changing medical practice remains controversial. Although more than 10 years has passed since the "malpractice crisis" emerged, it is difficult to determine the extent and cost of "defensive medicine"--medical procedures and activities which are primarily addressed to reducing the risk of suit rather than caring for the patient. Malpractice premiums account for a substantial, but now relatively stable, part of the costs of practice as measured in the MEI (Table 1.15). Reports indicate that the rate of premium increase may be growing again, but this is not yet reflected in Health Care Financing (HCFA) data. Although some specialties pay much larger

premiums than others, premiums for specialties do not vary so widely when considered as a fraction of the specialty's gross practice revenues (Table 1.16), although this may change with more current data.

5. MEDICARE'S PRESENT PHYSICIAN PAYMENT POLICIES AND THEIR IMPLICATIONS.

a. THE MECHANICS OF THE PRESENT SYSTEM. Medicare's payment system is a historical-charge-oriented method called CPR. For covered services, Medicare pays 80% of the reasonable charge (Figure 1.1), subject to a deductible which has been $75 since 1982. The reasonable charge is the lowest of a) the physician's actual charge, b) the physician's customary charge for the procedure (his median historical charge), or c) the prevailing charge. Before the Economic Stabilization Program (1973-1975), the prevailing charge was simply defined as the 75th percentile of customary charges for similar services in a locality. Since 1975, the rate at which the prevailing charge can increase has been limited to the rate of increase in the MEI, which reflects the physician's cost of doing business. In consequence, the prevailing charge increasingly limits the reasonable charge. Some carriers divide states into multiple localities and divide physicians into specialty groups while others treat all physicians or all localities in the region as similar. The CPR system of screening charges is so complex that many physicians and most patients cannot predict what charges will be paid. Even within small geographic areas, many charge screens exhibit wide variations.

Medicare allows physicians to submit a bill directly to Medicare, in which case the physician agrees to accept Medicare's approved charge as payment in full (accepting

assignment). Medicare directly pays the physician its portion of the reasonable charge, and the physician bills the patient for coinsurance and deductibles. If he does not accept assignment, the physician bills the patient directly, in which case the patient is responsible for any excess of the physician's charge over the reasonable charge in addition to the deductible and co-insurance, as well as for submitting the bill to the Medicare program for reimbursement. Under the Deficit Reduction Act, physicians may continue to accept or refuse assignment on a case-by-case basis or they may become MPPs by agreeing to accept assignment for all bills for that year. Physicians now accept assignment on about two thirds of bills, with wide variations of this rate by region and specialty (see section 2.c of this chapter and chapter 5). Until the recent freeze, although Medicare limited the charges it allowed as reasonable, it imposed no limits on charges and gave the physician little incentive to limit charges.

Accepting assignment means, of course, that the physician may receive less money than if he billed the patient directly and that he is uncertain how much he will receive. But accepting assignment guarantees payment of Medicare's share of of the bill and assures the physician that the patient's costs are limited to copayment and deductible amounts.

b. THE UNIT OF PAYMENT. Medicare's current procedure coding system is Health Care Financing Administration Common Procedure Coding System (HCPCS) (HCFA 1985b), which incorporates the American Medical Association's Current Procedural Terminology (CPT1985)(AMA 1985). A number of critics have suggested that the very large number of codes (over 8000) is so great as to encourage "unbundling" or a la carte billing (fragmentation of a service into a number of

components for which the total bill is larger than for the single combined service) and "code creep" (small increments in the coded difficulty of procedures which are not warranted by services actually performed). HCFA carefully studied the problems of introducing a more differentiated system and found strong evidence that its methods of introducing HCPCS would protect against sudden increases in costs (Moshman Associates 1984). But evidence is not available regarding the long-term implications of a more finely differentiated system. No available data indicate clearly whether the increased volume/intensity which acounts for 41% of Medicare physician cost increases is due to longer visits, an increased number of inpatient visits, and increased technological intensity or to code creep and unbundling; it is not due to an increased number of office visits (Mitchell et al. 1983). Data indicating that physicians respond to fee restraints by billing for more complex and numerous services (see chapter 2) do not indicate whether this change is also occurring chronically without fee restraints.

Concern about differentiation of codes actually focuses on office and hospital visits and consultations (Table 1.17a). By contrast, the surgical procedure codes which account for the overwhelming majority of codes, are generally so specifically described that there is limited opportunity for code creep, as Table 1.17b illustrates. Likewise, increasing the number of coding categories need not make "code creep" more expensive. Although a larger number of procedures may be upgraded if codes are finely differentiated, the payment impact of each change will be smaller because a finely differentiated system also has smaller payment differences between adjacent codes.

For clinical, research, and utilization review purposes, a highly differentiated and

precise coding system is desirable. Carriers can bundle these codes together for payment purposes, and they can treat a whole group of codes as identical for payment purposes. Thus, refining the definition of some troublesome codes may be more useful than trying to reduce the number of codes. The problems of code creep and unbundling are discussed further in section 7 of chapter 2.

c. CURRENT REIMBURSEMENT INCENTIVES: There is a widespread perception that the growth of Medicare physician expenditures reflects not only inflationary pressures in the general economy and increases in the complexity of medical services but also the failure of major underwriters of medical care, such as Medicare, to secure the most advantageous prices for themselves and their beneficiaries. This reflects not only the legislation governing the CPR system but the historical absence of incentives for Medicare carriers to exercise much of their potential market power and review authority. Nevertheless, the CPR system has been singled out for special criticism because of a number of inflationary features:

(1) Charges accepted under CPR are set with reference to charges which physicians bill rather than being based on the payment which physicians actually accept for their services. For a variety of reasons discussed in section 2 of chapter 2, charges are systematically and substantially higher than actual payments. Thus, using charges as the basis for payment is expensive and inflationary.

(2) Since future payment under CPR is partly determined by present customary charges, physicians may set present charges with as much concern for their customary charge profiles (and thus future reasonable

charges) as for the costs of providing services. Because payments are now thought to be largely constrained by prevailing charges rather than by the physician's customary charges, the importance of this incentive is uncertain.

(3) New procedures are typically costly because they require special skills and an unusual amount of physician attention. But, under CPR, the charge initially accepted for a new procedure tends to become the base for further increases, and charges almost never decrease, even if increased experience, improved technology, or increased volume significantly lower production costs (Roe 1981). Although customary charge profiles for these procedures would fall if physicians decreased charges, the insurance system largely insulates physicians against market pressure to decrease charges. This contrasts with other highly technological industries, such as electronics, where prices fall dramatically when the cutting edge of innovation moves on and breakthrough products become routine production items.

CPR is also accused of being counterproductive in that:

(1) Most carriers differentiate fees according to the physician's specialty (specialists usually get more), and location of practice (physicians in urban and suburban areas usually get more). The coding system also differentiates between visits in hospital and visits of similar length in office settings: services in hospital settings bring higher profits because

there is less overhead. Thus, CPR provides rewards for specialization, for practice in urban and suburban areas, and for performing services in hospital settings.

(2) Perhaps because insurance coverage of inpatient physician services predated coverage of outpatient services and is typically still more extensive, procedures which are typically provided in hospitals have tended to be introduced at higher prices than those which are usually provided in less-insured outpatient settings (Medicare is unusual in its equal coverage of inpatient and outpatient physician services).

(3) These policies of Medicare, and of other carriers which accept historical charges, are accused of having produced or supported a wide gap between hourly rewards for primarily "cognitive" services and services which directly employ technology (Table 1.18). Taking a medical history, doing a physical examination, or counseling a patient bring relatively low hourly payments compared to doing surgery, interpreting a CAT scan, or performing an endoscopy. Exercising surgical judgment to determine whether to perform a procedure commands lower payment than the same time spent performing the procedure. In consequence, a physician's reasonable charge for an hour of his time tends to increase with the number of other resources he is controlling or expending; this is not an incentive for cost containment.

While product cost and resulting pressure on profits restrains use of new technology in most industries, the policies of third party payors such as Medicare often mean

that using a new procedure or technology actually releases physician charges from the restraints which apply to more traditional physician services. These incentives may also induce physicians to perform more such procedures than are medically warranted and may promote manpower imbalances between specialties with significant long-term implications.

The current structure of physician fees has become a source of unhappiness within as well as outside of the medical profession, prompting resolutions and efforts to develop new relative value scales (AMA 1984d, ASIM 1981, IOM 1984). Another reflection of this concern was the mandate in the Deficit Reduction Act of 1984 that the Congressional Office of Technology Assessment report to Congress on relative values (P.L. 98-369 sec. 2309). Although many believe that current fees do not support the emphasis on primary care and talking to patients which many health care planners judge desirable, there is very little consensus on whether they reflect the actual market value of various services or a distortion produced by insurance. This problem is discussed further in chapter 2.

6. NECESSARY AND DESIRABLE CHARACTERISTICS OF REFORM. An acceptable plan for reform of physician payment must:

- control the growth of Medicare outlays for physician services,
- maintain access to needed health services, and
- discourage transfer of burdens to beneficiaries.

In order to accomplish these goals, reforms should meet the following objectives:

- be clinically reasonable and equitable,
- simplify the system and make it more understandable,

- establish Medicare as a prudent agent for both beneficiaries and the government,
- create incentives for efficiency,
- be implementable soon (at least in part),
- respect the diversity of the health care system,
- promote decentralization and deregulation of Medicare, and
- minimize disruption of the health care delivery system.

a. CONTROL EXPENDITURE GROWTH. Medicare has three widely recognized options in seeking to control growth of Part B outlays:

(1) Adjust prices so that prices fall if volume rises beyond targets. Most Independent Practice Associations do this, as do the Province of Quebec and the West German Sickness funds.

(2) Pay for more aggregated units of service whose volume is relatively constant or can be controlled. This approach bundles individual services and procedures together into larger units such as a hospital stay. Increases in volume of large units are much easier to review and control than increases in the volume of small units such as lab tests or office visits. Hospital PPS does this by designating the hospital stay as the unit of payment.

(3) Pay by the year for all services to a beneficiary. Since the total number of Medicare beneficiaries cannot be manipulated by providers, no policing of utilization or volume of service is necessary. HMOs and CMPs accept such capitation payments.

b. ASSURE CONTINUED ACCESS TO QUALITY CARE. Assuring that beneficiaries will have continued access to quality care requires either assuring that Medicare's prices remain competitive with those of other insurors or legislatively mandating that access (with possible severe intrusions into the doctor-patient relationship).

Assuring access to quality care should be easier in an increasingly competitive environment, given that 30% of most physicians' patients are Medicare beneficiaries (AMA 1984b, Cromwell & Harrow 1984) and that 20% of total physician income is from Medicare payments (another 10% of physician income is from beneficiary share of services covered by Medicare--Table 2.8). The elderly tend to have close friends and relatives who are not elderly and to be parts of service and referral networks which a physician may need to cultivate. The elderly were also, in the not-too-distant past, not elderly; physicians will not easily abandon a patient because the patient grows old. The rising supply of physicians and the growth of HMOs can also be expected to offset access barriers which might be created if Medicare reduces physician income from Medicare beneficiaries substantially below that from other patients. Setting prices at levels at which most physicians are willing to provide care may be the best way to assure continued access to quality care.

In addition, HCFA looks to PROs to safeguard quality of care, particularly to prevent under service where payment is by DRGs; HCFA is also developing plans to monitor quality of care in capitated systems.

c. PREVENT TRANSFER OF BURDENS TO BENEFICIARIES. This objective is mandated by the provision of the Deficit Reduction Act cited above, requiring a

plan such that "any burden of effectively constraining the growth of costs in the medicare part B, which Congress intends to be borne by providers and physicians, is not transferred in whole or in part so as to become an additional burden on Part B beneficiaries in the form of increased out-of-pocket costs, reduced services, or reduced access to needed physician care." (Deficit Reduction Act (PL 98-369), Section 2306(d)(3)).

d. BE CLINICALLY REASONABLE AND EQUITABLE. Any new system of paying physicians should be clinically reasonable because this enhances both the likelihood of its being reasonable in other respects and the likelihood that physicians will cooperate. Another way to put this is that reforms must be fair to physicians and patients through making payments for physician services proportional to the clinical needs of patients. If a reform results in substantial systematic transfers of payments from some physicians to others, the reform should be supported by consensus that the results more fairly reflect needed care.

e. SIMPLIFY THE SYSTEM. The challenge of prudently administering the Medicare system has led to complex laws and equally complex regulations. These are not only expensive to administer but also extremely difficult for beneficiaries and physicians to understand. Greater intelligibility and ease of administration are a central goal of reform.

f. ESTABLISH MEDICARE AS A PRUDENT AGENT FOR THE GOVERNMENT AND BENEFICIARIES. Medicare is the insuror on behalf of its beneficiaries as well as a paying agent for the government; beneficiary payments (including premiums) pay almost half the cost of covered services. The relative

contribution of the government and beneficiaries is a matter of statutory budget policy. However, the fact that half of the liability for Part B services falls directly or indirectly on beneficiaries gives Medicare a fiduciary responsibility to use its market power to secure the most favorable possible terms for its beneficiaries. This is especially so because Medicare beneficiaries face prohibitive costs if they purchase primary coverage elsewhere than from Medicare--they have little opportunity to shop for a better bargain if Medicare is not serving as a prudent agent on their behalf.

g. CREATE INCENTIVES FOR EFFICIENCY AND COMPETITION. There is some consensus that the best way to create incentives for efficiency is to pay for large units of service so that the physician profits from efficiency and is penalized by waste. Payment for large units reduces the need to regulate the way the provider attends to the details of operations and allows the provider to substitute services and equipment in a way which responds to clinical needs and efficiency rather than coverage regulations.

In the long run, for example, it may be more important that Medicare promote enough growth of prepaid health plans to assure that they will be a competitive force promoting efficiency and competitive pricing than that Medicare should seek to have every physician become a member of such a plan. Ultimately, in this example, it is the efficiency and integration which these plans represent which is desirable, not the particular organization of medical care. Such goals may equally be attainable by many physicians whose practices are organized in other ways.

h. BE IMPLEMENTABLE SOON. If the base expenditure rate for the Part B

program continues to grow 10-20% a year, waiting 5 years to implement a reform means that the base on which that reform must operate will have grown from the current $20 billion to $30-50 billion. The chances of recapturing that growth are poor.

i. RESPECT THE DIVERSITY OF THE CURRENT SYSTEM. No single solution such as HMOs for all is feasible in the diversified American health care system. Even the most optimistic projections by advocates of HMOs do not suggest that they could enroll all the elderly within the next decade. Similar reservations apply to other reforms which would require a change in the structure of medical practice. Thus, any reform should be superimposable upon the way medicine is practiced. For example, a capitation system might work by having carriers form new relationships with providers; a DRG-type system might modify the way bills are currently paid; a system based on relative value scales might replace current screening of bills with a fee schedule. But a proposal which requires that all beneficiaries enroll in HMOs or that all providers form into small risk-sharing groups demands changes which may not be feasible in the present diversified system.

j. PROMOTE DECENTRALIZATION AND DEREGULATION. Medicare will remain a national program with a nationally uniform benefit package, eligibility, and financing system. Nevertheless, to the greatest extent possible, the organization of health care and the measures used to control costs should be decided at the local level with a minimum of centralized regulation.

k. MINIMIZE DISRUPTION. Under any payment system reform, there will inevitably be winners and losers—physicians, hospitals, or other providers which get

more money or less money than others. A reform should minimize these changes in the short run and should especially minimize disruptive shocks which may force systems to change faster than they efficiently can. On the other hand, incentives will not work if providers are entirely insulated from such shocks.

Table 1.1

Breakdown of government and beneficiary share of cost of Part B services
amounts in billions

	Total	Total[1] program	Govern-ment share	Beneficiary share				
				Premium	De-ductible	Co-insurance	Excess on approved charges	Total beneficiary share
1975	$ 6.6	$ 4.1	$ 2.3	$1.8	$1.0	$1.0	$0.5	$ 4.3
1976	7.9	5.0	3.0	2.0	1.0	1.2	0.7	4.9
1977	9.4	6.2	4.2	2.0	1.1	1.4	0.8	5.3
1978	11.0	7.3	5.2	2.1	1.1	1.7	0.9	5.8
1979	13.0	8.7	6.2	2.5	1.1	2.0	1.2	6.8
1980	15.9	10.7	7.5	3.2	1.2	2.5	1.5	8.4
1981	19.0	12.8	9.2	3.6	1.3	3.0	2.0	9.9
1982	23.5	15.9	12.2	3.7	1.6	3.8	2.3	11.4
1983	26.8	18.1	14.1	4.0	1.7	4.5	2.5	12.7
1984	29.1	19.7	15.1	4.6	1.7	5.0	2.7	14.0
1985	33.0	22.9	17.5	5.4	1.8	5.7	2.6	15.5
				Percent of Total				
1975	100%	62.9%	35.2%	27.7%	14.6%	14.5%	8.0%	64.8%
1976	100	63.6	38.4	25.2	12.8	14.7	9.0	61.7
1977	100	65.3	44.8	20.5	11.2	15.0	8.6	55.3
1978	100	66.4	47.6	18.8	10.0	15.3	8.3	52.4
1979	100	66.9	47.9	19.0	8.8	15.4	8.9	52.1
1980	100	67.2	47.1	20.1	7.6	15.5	9.7	52.9
1981	100	67.4	48.6	18.8	6.6	15.7	10.3	51.4
1982	100	67.6	52.0	15.6	6.7	16.0	9.7	48.0
1983	100	67.5	52.6	14.9	6.3	16.8	9.3	47.4
1984	100	67.7	51.9	15.8	5.8	17.2	9.3	48.1
1985	100	69.4	53.0	16.4	5.4	17.3	7.9	47.0

[1]Sum of government share and beneficiary premium. Includes interest on trust fund, which has been allocated to beneficiary and government shared in proportion to their contributions to the trust fund.

SOURCE: Health Care Spending Bulletin 83-12, Bureau of Data Management and Strategy. Health Care Financing Administration, July 1983; Trustees Report 1986.

Figure 1.1

How physician services covered by Medicare Part B were paid for beneficiaries meeting the deductible: calendar year 1982

The difference between billed charges and charges accepted by Medicare for unassigned claims. An average of $116.95 in 1982 for every beneficiary meeting the deductible.[1]

Program payments. Averaged $640.71[2] in 1982 for every beneficiary meeting the deductible. This came from general revenues and from beneficiary premiums

Beneficiary premiums contributed $163.11[3]

Federal general revenues contributed $477.60[3]

Beneficiary coinsurance of 20%. Average of $153.71 for every beneficiary meeting the deductible[4]

Deductible of $75.00 for every beneficiary having that much in reasonable charges

[1]Actual total reduction of unassigned claims. Bureau of Data Management and Strategy, Health Care Financing Administration.
[2]McMillan, A., Lubitz, J. and Newton, M., 1985: Trends in Medicare assignment rates 1968-1984, unpublished paper.
[3]Calculated from ratio of government and premium contribution to trust fund, Trustees Report 1985.
[4]Bureau of Data Management and Strategy, Health Care Financing Administration, unpublished data.

Table 1.2

Growth in Medicare expenditures in millions: 1967 through 1984

Fiscal Year	Physician Payments	Percent Year to year increase	Part B Payments	Percent Year to year Increase	Part A Payments	Percent Year to year Increase
1967	$ 629	---	$ 664	---	$ 2,508	---
1968	1,304	107.3%	1,390	109.3%	3,736	49.0
1969	1,516	16.3	1,645	18.3	4,654	24.6
1970	1,814	19.7	1,979	20.3	4,804	3.2
1971	1,831	0.9	2,035	2.8	5,442	13.3
1972	1,996	9.0	2,255	10.8	6,108	12.2
1973	2,118	6.1	2,391	6.0	6,648	8.8
1974	2,426	14.5	2,874	20.2	7,806	17.4
1975	3,065	26.3	3,765	31.0	10,353	32.6
1976	3,690	20.4	4,672	24.1	12,267	18.5
T.Q.[1]	968	---	1,269	---	3,314	---
1977	4,599	19.3	5,867	20.0[2]	14,906	16.9[2]
1978	5,327	15.8	6,852	16.8	17,411	16.8
1979	6,397	20.1	8,259	20.5	19,891	14.2
1980	7,814	22.2	10,144	22.8	23,790	19.6
1981	9,513	21.7	12,345	21.7	28,907	21.5
1982	11,392	19.8	14,806	19.9	34,343	18.8
1983	13,499[4]	18.5	17,487	18.1	38,102	10.9
1984	15,200[4]	12.6	19,473	11.4	41,476	8.9
Qtr 1, FY1984			4,929	14.4[3]		
Qtr 2, FY1984			4,628	10.8		
Qtr 3, FY1984			5,005	13.9		
Qtr 4, FY1984			4,911	6.6		
Qtr 1, FY1985			5,117	3.8		
Qtr 2, FY1985			5,075	9.7		
Qtr 3, FY1985			5,409	8.1		

[1] Transitional quarter when beginning of Federal fiscal year was moved from July 1 to October 1.
[2]Adjusted year-to-year change.
[3]Quarterly year-to-year change is compared with same quarter of previous year.
[4]Physician payment data for 1983 and 1984 update from Office of Actuary, Health Care Financing Administration.

SOURCES: Annual physician payment data 1967-1982 from Burney, I. et al: Medicare physician payment, participation, and reform. Health Affairs 3(4): 5-24, Winter 1984; Physician payment data for 1983 and 1984 from Office of the Actuary, Health Care Financing Administration; Annual Part A and Part B data from tables M-6 and M-7, Social Security Bulletin, 48(2), Feb. 1985.

NOTES: For 1967 through 1976 fiscal years cover the interval from July 1 through June 30; the three month interval from July 1, 1976, through September 30, 1976 is labeled "T.Q." the transitional quarter; fiscal years 1977 through 1985 cover the interval from October 1 through September 30.

Table 1.3

Growth of Part B reasonable charges incurred per enrollee

Year End June 30	Enrollment[1]	All Services	Physician[2]	Inpatient radiology pathology[3]	Outpt Hospital	Home Health Agency	Prepaid Group	Ind Lab
Aged:								
1967	17.750	$ 108.51	$ 102.61		$ 2.47	$1.37	$ 1.54	$ .52
1968	18.038	128.63	117.66	1.89	3.90	2.42	2.19	.57
1969	18.833	145.66	126.17	6.57	6.75	3.07	2.46	.64
1970	19.312	154.02	131.18	7.14	9.39	3.16	2.39	.76
1971	19.664	162.49	137.65	7.21	11.85	2.63	2.20	.95
1972	20.043	173.15	146.83	6.77	13.28	2.49	2.57	1.21
1973	20.428	186.53	157.39	6.99	14.74	3.01	2.93	1.47
1974	20.988	204.60	171.35	7.44	17.71	2.53	3.69	1.88
1975	21.504	237.08	193.10	8.72	23.45	4.65	4.67	2.49
1976	22.089	272.61	215.25	10.89	31.55	6.17	5.75	3.00
1977	22.605	313.95	242.45	12.21	41.69	7.59	6.41	3.60
1978	23.133	354.85	274.67	14.74	47.75	7.80	5.72	4.17
1979	23.693	399.66	306.79	16.33	57.23	7.75	6.89	4.67
1980	24.287	464.21	355.99	18.70	65.70	8.33	9.89	5.60
1981	24.826	542.40	413.22	22.91	77.63	8.65	12.68	7.31
1982	25.363	627.51	486.58	26.10	90.03	.39	15.61	8.80
1983	25.873	749.77	586.97	26.91	106.56	.48	19.14	9.71
Disabled (excluding ESRD):								
1974	1.636	171.29	135.93	7.54	21.00	4.18	1.65	.99
1975	1.813	213.42	171.21	8.40	25.33	4.19	2.74	1.55
1976	2.015	251.10	198.69	10.03	31.20	5.89	3.18	2.11
1977	2.229	304.14	228.05	13.03	51.43	5.41	3.40	2.82
1978	2.420	350.84	263.49	14.23	59.74	6.19	3.56	3.63
1979	2.561	407.90	308.26	17.09	69.67	5.65	2.85	4.38
1980	2.638	486.60	365.97	19.80	83.08	6.55	5.98	5.22
1981	2.682	575.34	427.17	23.14	103.87	7.64	7.19	6.33
1982	2.681	691.01	501.57	26.42	146.34	.00	8.75	7.93
1983	2.624	839.98	616.08	28.41	175.54	.00	10.16	9.79

[1]Enrollment in millions.

[2]Includes all items reimbursed on a reasonable charge basis and not included in other categories such as limited licensed practitioners, durable medical equipment and ambulance services.

[3]Includes services on payment records and those using combined billing; amounts shown are for April 1968 and later when combined billings are authorized and inpatient radiology and pathology charges are reimbursed at 100 percent.

NOTE: Home health benefits are available under both Part A and Part B, although the 1980 Omnibus Reconciliation Act (PL96-499) provided that all home health agency visits be covered under Part A unless a beneficiary has Part B coverage only, effective for services furnished on or after July 1, 1981.

SOURCE: 1985 Annual Report of the Board of Trustees of the Federal Supplementary Medical Insurance Trust Fund, Table A-2.

Table 1.4

Components of the annual growth of Part B physician expenditures by specialty: 1975-1982

	Total Payments	Enrollment	Services/ Enrollee	Real Payments/ Service	GNP Implicit Price Deflator
Total All specialities	19.7%	2.3%	6.2%	2.3%	7.7%
Family and General practice	12.9	2.3	0.0	2.6	7.7
Internal medicine	18.1	2.3	4.7	2.3	7.7
General surgery	15.0	2.3	-1.3	5.8	7.7
Ophthalmology	25.2	2.3	7.9	5.3	7.7
Orthopedic surgery	18.6	2.3	5.2	2.4	7.7
Urology	15.3	2.3	3.4	1.2	7.7
Cardiovascular Disease	29.2	2.3	11.4	5.3	7.7
Radiology	24.6*	2.3	11.1*	1.8	7.7
Pathology	28.8*	2.3	21.4*	-3.9	7.7

See text for limitations of this data. Bills submitted on Form HCFA-1554 (Provider Billing for Patient Services by Physician) are excluded. These were billings submitted by the hospital but not a part of the hospital services.

The components of growth combine to give the total growth in the left column by multiplication, not addition. Actual components, which combine by multiplication, therefore have slightly different values.

*Figures for pathology and radiology represent only those services which were not billed as part of hospital services and therefore may not fully represent Medicare's outlays in these specialties. Total payments and services per enrollee may therefore vary year-to-year according to portion of services which are billed as part of hospital services.

SOURCE: Juba and Sulvetta 1985, Table 5.0 recalculated with additional data from author. From HCFA BSPR-11 tables based on 5% sample of Bill Summary Records.

Table 1.5

Relative growth of different indices of inflation

	MEI Fsy[1]	GNP deflator	Physician CPI[2]	Enrollment
1975		125.80	169.4	21.5
1976	1.178	132.30	188.5	22.1
1977	1.262	140.10	206.0	22.6
1978	1.333	150.40	223.1	23.1
1979	1.411	163.40	243.6	23.7
1980	1.510	178.40	269.3	24.3
1981	1.641	195.10	299.0	24.8
1982	1.792	207.38	327.1	25.4
1983	1.944	215.34	365.9	25.9
1984	2.060	226.18	387.9	26.4

[1]MEI is the Medicare Economic Index, FSY is fee screen year July 1 to June 30 . MEI established for the fee screen year on basis of preceding calendar year data.
[2]CPI - Physician services component for urban wage and clerical workers

NOTES: Section 2306 (a) of the Deficit Reduction Act of 1984 (P.L. 98-369) amended section 1842 (b) of the Social Security Act to provide that the prevailing charges for physicians' services furnished during the 15- month period level in effect July 1, 1984 must not be set higher than the same level in effect for the twelve month period beginning July 1, 1983. The increase that would have been provided July 1, 1984 as the result of the MEI published in the Federal Register on June 20, 1984 (49 FR 25309) was rescinded. In addition, the increase that would have been provided is excluded from all future economic adjustments. Fee screen years were also changed from July to October of each year for physicians' services to reflect the federal fiscal year. Reasonable charge updates will be computed on the basis of charges physicians make for services during the period April 1 to March 1 annually instead of the calendar year period preceding the update.

SOURCES: Medicare Program: Economic Index for Physicians' Services for the Period 7/1/84 to 6/30/85 Federal Register Vol. 49, No. 120, Table B, Wednesday, June 20, 1984 pp. 25309-25311; Survey of Current Business-United States: Department of Commerce, December 1984, Vol. 64, No. 12, p. 1, Table 1, p. 19, Table 7.1; Statistical Abstract of the United States 1984 104th Edition: Department of Commerce Bureau of Census, p. 494, Table No. 811; Monthly Labor Review: Department of Labor, Bureau of Labor Statistics, June 1984, p. 86, Table 20.

Table 1.6a

Growth of physician reasonable charges by location of service: 1980-1983

Location of Service	1980 millions	1980 percent	1983 millions	1983 percent	Annual Rate of Growth
All places	$9,758	(100.0)	$18,110	(100.0)	22.9%
Inpatient hospital	5,503	(56.4)	9,884	(54.6)	21.6%
Office	2,806	(28.7)	4,931	(27.2)	20.7%
Outpatient hospital	348	(3.6)	948	(5.2)	39.5%
Home	261	(2.7)	701	(3.9)	39.0%
Other	840	(8.6)	1,646	(9.1)	25.1%

Table 1.6b

Location of service for Part B medical and surgical services over time volume measured by percent reasonable charges

	1975	1980	1983
Medical Care - All	100.00%	100.00%	100.00%
Office	43.83	43.45	42.57
Inpatient hospital	48.03	48.19	49.18
Outpatient hospital	1.87	3.02	3.20
SNF	3.37	3.10	2.97
Other	2.90	2.24	2.09
Surgery - All	100.00%	100.00%	100.00%
Office	---	11.74	12.97
Inpatient hospital[1]	84.53	84.37	79.61
Outpatient hospital	---	3.32	6.68
Other	---	0.52	0.74

[1]Location of surgical services available only for inpatient and other categories in 1975

NOTES: Reasonable charges include beneficiary share; The symbol --- means data are not available; See text footnote for technical limitations of these data.

SOURCE: Juba and Sulvetta 1985, Tables 3.0 and 4.0. from HCFA SRQ-6 tables based on 5% sample of Bill Summary Records

Table 1.7

Quarterly percent distribution of Medicare Part B physician reasonable charges[1] by location[2] of service: 1982-1985

Calendar Year	1982	1983	1984	1985
		Percent		
First Qtr				
Inpatient hospital		66.87%	62.98%	57.74%
Office[3]		25.06	26.50	28.15
Outpatient hospital		4.93	6.45	9.55
Home, Lab, Nursing Home and Kidney[4]		2.51	2.64	2.60
Other[5]		.63	1.43	1.96
Second Qtr				
Inpatient hospital	68.85	66.90	64.18	
Office[3]	23.80	24.51	25.11	
Outpatient hospital	4.49	5.21	7.04	
Home, Lab, Nursing Home and Kidney[4]	2.26	2.45	2.30	
Other[5]	.60	.93	1.37	
Third Qtr				
Inpatient hospital	65.23	64.49	59.45	
Office[3]	23.80	26.63	28.28	
Outpatient hospital	4.61	5.33	7.88	
Home, Lab, Nursing Home and Kidney[4]	2.69	2.62	2.77	
Other[5]	.73	.93	1.62	
Fourth Qtr				
Inpatient hospital	64.43	62.44	57.39	
Office[3]	27.53	28.26	29.57	
Outpatient hospital	4.78	5.66	8.76	
Home, Lab, Nursing Home and Kidney[4]	2.60	2.60	2.57	
Other[5]	.66	1.04	1.71	

[1]reasonable charge includes the coinsurance but not the deductible.
[2]location of service is the place where the service having the largest single reasonable charge on the bill was rendered.
[3]office includes all clinic services except for hospital clinics.
[4]lab is independent laboratory, nursing home is skilled nursing facility and nursing home, and kidney is independent kidney disease treatment center.
[5]other includes ambulatory surgical centers, hospice, and residual locations.

NOTES: Dates reflect monthly processing dates at the Health Care Financing Administration not the date of service or the date of payment. For other technical limitiations see text footnote. Excludes supplier charges.

SOURCE: Bureau of Quality Control, Health Care Financing Administration, Medicare Part B bill payment records: unpublished data.

Table 1.8

Rate of change in physician reasonable charges by type of service (amounts in millions of dollars)

	Total Charges 1975	Total Charges 1980	Annual Growth 1975-83	Total Charges 1983	Annual Growth 1980-83
All Types	$ 4,481	$ 9,758	19.1%	$ 18,109	22.9%
Medical Care	1,822	3,782	16.5	6,164	17.7
Surgery	1,350	2,885	19.1	5,474	23.8
Other Medical Services	253	698	26.4	1,649	33.2
Clinical Lab	362	766	20.2	1,575	27.2
Diagnostic X-ray	296	651	21.4	1,393	28.9
Anesthesia	181	406	19.4	749	22.6
Consultation	114	279	22.3	571	27.0
All Others	103	292	22.8	532	22.1

See text for limitations of this data.

Reasonable charges include beneficiary share

SOURCE: Juba 1985, Table 3.0, recalculated. Based on HCFA SRQ-6 Tables from 5 percent sample of Bill Summary Records.

Table 1.9

Percentage of claims on which providers accepted assignment

CY		Percent of Claims Processed
1969		61.5
1972		54.9
1975		51.8
1976		50.5
1977		50.5
1978		50.6
1979		51.3
1980		51.5
1981		52.3
1982		53.0
1983		53.9
1984		59.0
1985		68.5
	(10/83-12/83)	54.4
	(01/84-03/84)	55.2
	(04/84-06/84)	57.2
	(07/84-09/84)	58.3
	(10/84-12/84)	64.6
	(01/85-03/85)	67.3
	(04/85-06/85)	69.4
	(07/85-09/85)	69.7
	(10/85-12/85)	69.0
	(01/86-03/86)	67.7

Claims processed includes claims subsequently disallowed as duplicates, uncovered services, or for other reasons.

SOURCES: McMillan, Lubitz and Newton 1985 Table 2: Trends in Physician assignment rates for Medicare services 1968-1985 Health Care Financing Review Winter 1985; Carrier Workload and Processing Time Report series, Bureau of Quality Control, Health Care Financing Administration.

Table 1.10

Trends in hospital length of stay

Year	All Patients[1] Calendar yr	Medicare Aged	
		Calendar year	Fiscal year
1967	8.3	13.8[2]	
1968	8.4	13.8	
1969	8.3	13.5	
1970	8.2	13.0	
1971	8.0	12.5	
1972	7.9	12.1	
1973	7.8	11.7	
1974	7.8	11.5	
1975	7.7	11.2	
1976	7.7	11.1	
1977	7.6	11.0	
1978	7.6	10.8	
1979	7.6	10.7	
1980	7.6	10.6	---
1981	7.6	10.4	10.1[4]
1982	7.6	10.2[3]	10.3
1983	7.6	9.6	10.0
1984	---	---	9.0

[1]Non-Federal short term general hospitals AHA statistics 1984 edition
[2]Short-stay hospitals. C. Helbing
[3]Health Care Financing Administration. Bureau of Data Management and Strategy
[4]Fiscal year--short-stay hospitals. Health Care Financing Administration, Bureau of Data Management and Strategy

SOURCES: Non-Federal Short Term General Hospitals, Hospital Statistical 1984 Edition, American Hospital Association, pp. 4-7.

Short-stay Hospitals, Ten Years of Short Stay Hospital Utilizations and Costs Under Medicare: 1967 to 1976, Charles Helbing HCFA/ORDS-August 1980, Unpublished Data.

Medicare/Short-stay Hospital Length of Stay HCFA/BDMS, February 1985-Unpublished.

Average Length of Stay Per Discharge, February 1985-Unpublished.

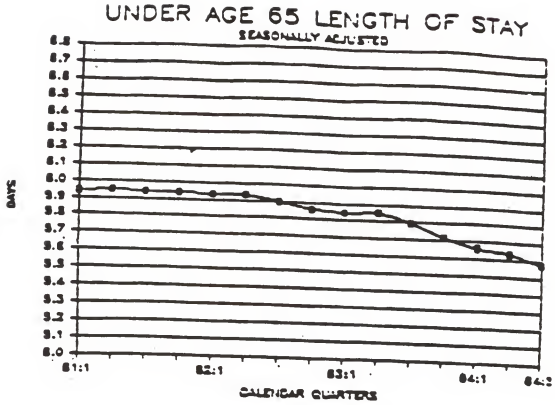
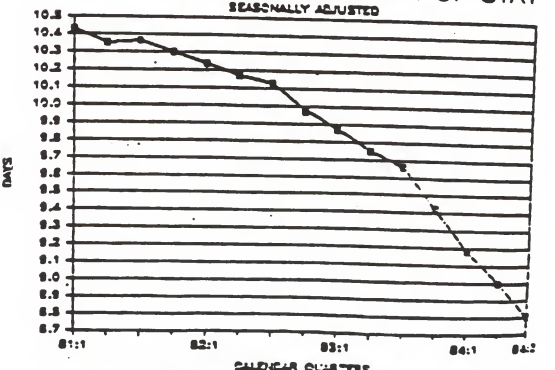


Figure 1.2b



SOURCE: American Hospital Association: Trends 83:12 fig.6,December 1984 (Copyright 1984 by the AHA. For more information on AHA data, call 312-280-6331.)

Table 1.11

Trends in hospital admissions per 100,000 population

Year	All Patients[1] per 1,000 population	Medicare per 1,000 enrollees	
	calender year	calender year	Fiscal year
1972	149	312	
1973	153	317	
1974	154	324	
1975	156	329	
1976	157	339	
1977	156	345	
1978	156	349	
1979	157	354	
1980	159	369	
1981	159	377	
1982	157		386[3]
1983			395
1984			381

[1]Non-Federal short-term - calendar year AHA
[2]Short-stay hospitals - calendar year; Health Care Financing Administration, Bureau of Data Management and Strategy
[3]Data is for calendar year before 1982, fiscal year afterward.

SOURCES: Non-Federal Short Term-Calendar Year Hospital Statistics: 1984 Edition, American Hospital Association, Table 1, pp. 4-7.

Short Stay Hospitals Calendar Year Medicare Trends in Short Stay Hospital Admissions, HCFA/BDMS, February 1985-Unpublished.

Medicare Short Stay Hospital Admissions and Rate Per Thousand Hospital Insurance Enrollees FY 1978-1984 HCFA/ BDMS, Table 6.5-Unpublished.

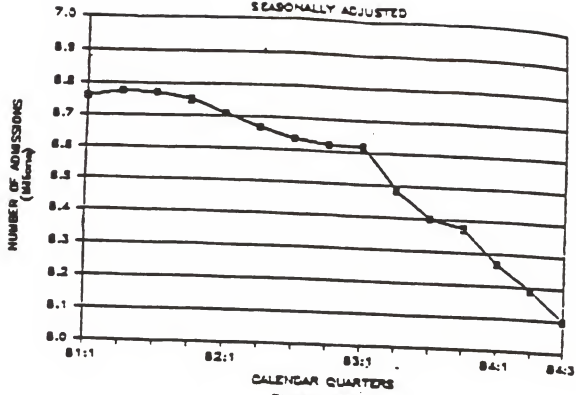
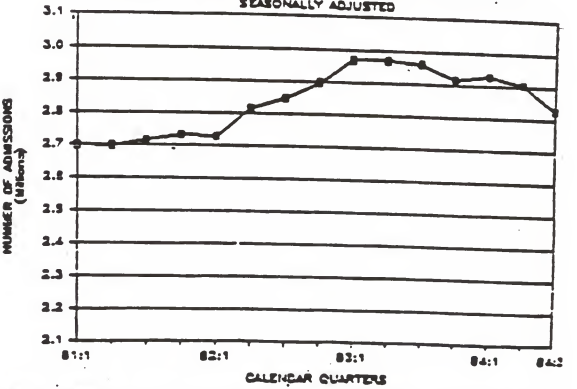


Figure 1.3b

AGE 65 AND OVER ADMISSIONS



SOURCE: American Hospital Association: Trends (83):10(fig 4)Dec 1984 (Copyrigh 1984 by the AHA. For more information about AHA data, call(312) 280-6531)

Table 1.12

Physician supply in the United States
absolute numbers and number per 100,000 population

Year	Total (1000)	Number per 100,000 population
1969[1]	338	163
1970	348	168
1971	359	174
1972	371	174
1973	381	178
1974	394	183
1975	409	187
1976	426	194
1977	438	196
1978	454	201
1979	472	207
1980	487	211
1981	505	217
1985[2]	527.6-529.9	221.1-222.0
1990	592.6-608.2	237.3-243.5
1995	647.4-682.4	249.4-262.8
2000	695.8-749.9	259.6-279.8

[1]Statistical Abstract of the U.S.
[2] Estimates from Report to the President and Congress on the status of health personnel in the United States, U.S. Public Health Service, Health Resources and Services Administration, Bureau of Health Professions, May 1984

SOURCES: Department of Commerce, Bureau of Census, Statistical Abstract of the United States: 1975, Table No. 110, p. 74, Physicians, Dentists, and Nurses: 1950 to 1973; 1977, Table No. 145, p. 99, Physicians, Dentists, and Nurses: 1950 to 1975; 1981, Table No. 163, p. 105, Physicians, Dentists, and Nurses: 1950 to 1979; 1984, Table No. 160, p. 109, Physicians, Dentists, and Nurses: 1950 to 1981; Report to the President and Congress on the Status of Health Personnel in the United States, U.S. Public Health Service, Health Resources and Services Administration, Bureau of Health Professions, May 1984.

Table 1.13

Growth in number and enrollment of HMOs[1]

Year	Plans	Enrollment (1,000,000)	Percent Growth
1970	26	2.9	NA
1971	30	3.1	6.9
1972	39	3.5	12.9
1973	72	4.4	25.7
1974	142	5.3	20.5
1975	178	5.7	7.5
1976	175	6.0	5.3
1977	165	6.3	5.0
1978	198	7.3	15.8
1979	215	8.2	12.3
1980	236	9.1	10.9
1981	243	10.3	13.2
1982	265	10.8	4.9
1983	280	12.5	15.7
1984	310	15.2	21.6
1985	393	18.9	24.3

[1]Census covers the period July 1, 1982 to June 30, 1984.

NOTE: Trends are midyear counts of plans and enrollment.

SOURCE: Interstudy, National HMO Census 1983, (Copyright: used with the permission of Interstudy), and unpublished Interstudy data.

Table 1.14a

Incomes of different medical specialties 1981 and 1982

	Average Net Income[1]		Annual Percent Change
	1981	1982	
All physicians[2]	$93,000	$ 99,300	7.0%
Specialty			
General and family practice	72,200	71,900	-0.4
Internal Medicine	85,100	86,800	2.0
Surgery	118,600	130,500	10.0
Pediatrics	65,100	70,300	8.0
Obstetrics/Gynecology	110,800	115,800	4.5
Radiology	116,900	136,800	17.0
Psychiatry	70,600	76,500	8.4
Anesthesiology	118,600	131,400	10.8
Other	86,700	94,900	9.5

[1]Average net income is total income from medical practice minus expenses but before taxes.
[2]All physicians is defined as all non-federal patient care physicians.

NOTE: Data are from the 1982 and 1983 American Medical Association's annual socioeconomic monitoring system (SMS) core survey.

SOURCE: American Medical Association: SMS Report 2(4): 2, Table 2, 1983. (Copyright 1984: Used with the permission of the American Medical Association).

Table 1.14b

Average net income after expenses but before taxes
1982 and 1983

	Average Net Income[1]		Percent Change
	1982	1983	
All physicians[2]	$99,300	$106,300	6.8%
Specialty			
General and family practice	71,900	68,300	-4.7
Medical specialties	81,700	85,600	4.8
Surgical specialties	126,700	138,900	9.6

[1]Average net income is total income from medical practice minus expenses but before taxes.
[2]All physicians includes physicians in specialties not reported separately.

NOTE: Data are from the 1982 and 1983 American Medical Association's annual socioeconomic monitoring system (SMS) core survey.

SOURCE: American Medical Association: SMS Report 3(3): 4, Table 2, August 1984. (Copyright 1984: Used with the permission of the American Medical Association).

Table 1.15

Malpractice component of the Medicare Economic Index
(malpractice premiums as a fraction of office expenses over time)

Year	MEI	Percent MEI Change	Weight of Malpractice Component	Percent Change In Malpractice Component
1976	1.178	NA	NA	NA
1977	1.262	7.1	.04	+84.0
1978	1.333	5.6	.07	+41.7
1979	1.411	5.9	.07	+10.3
1980	1.510	7.1	.07	+ 0.9
1981	1.641	6.7	.13	- 7.9
1982	1.792	9.2	.11	+ 5.3
1983	1.944	8.5	.10	+23.6
1984	2.060	6.0	.10	+14.8

NOTES: Section 2306 (a) of the Deficit Reduction Act of 1984 (P.L. 98-369) amended section 1842 (b) of the Social Security Act to provide that the prevailing charges for physicians' services furnished during the 15- month period level in effect July 1, 1984 must not be set higher than the same level in effect for the twelve month period beginning July 1, 1983. The increase that would have been provided July 1, 1984 as the result of the MEI published in the Federal Register on June 20, 1984 (49 FR 25309) was rescinded. In addition, the increase that would have been provided is excluded from all future economic adjustments. Fee screen years were also changed from July to October of each year for physicians' services to reflect the federal fiscal year. Reasonable charge updates will be computed on the basis of charges physicians make for services during the period April 1 to March 1 annually instead of the calendar year period preceding the update.

SOURCE: Federal Register Vol. 49, No. 120, June 20, 1984

Table 1.16

Malpractice insurance premiums as a percentage of gross receipts by specialty: U.S., 1983

Specialty	Dollar Cost (Median)	Percent of gross (Median)
General practice	$ 3,120	2.5%
Family practice	3,210	2.2
Internal medicine	2,790	1.9
Obstetrics and gynecology	12,360	5.5
Pediatrics	2,550	1.9
Otolaryngology	9,480	4.4
Emergency medicine	4,030	4.0
General surgery	10,160	4.9
Orthopedics	15,320	5.0
Neurosurgery	17,570	5.8
Plastic surgery	13,190	4.7
Thoracic surgery	14,170	5.7
Ophthalmology	4,830	2.2
All Surgery	10,730	4.8
All Non-surgery	2,510	1.3
All MDs[1]	4,570	2.9

[1]MDs are office based doctors of medicine from a random U.S. selection.

SOURCE: Kirchner, Medical Economics, November 12, 1984: 230 (Copyright 1984: used with permission of the Medical Economics Company, Inc.)

Table 1.17a

HCFA common procedure coding system: Office visits

	New patient
90000	Brief service
90010	Limited service
90015	Intermediate service
90017	Extended service
90020	Comprehensive service
	Established patient
90030	Minimal service
90040	Brief service
90050	Limited service
90060	Intermediate service
90070	Extended service
90080	Comprehensive service

NOTE: The HCFA Common Procedure Coding System (HCPCS) contains the American Medical Association (AMA) Physician Current Procedural Terminology Fourth Edition (CPT-4) and additional codes and modifiers for intermediary and carrier use in processing claims for medical services, and procedures and supplier services. CPT-4 is a listing of descriptive terms and numeric identifying codes and modifiers for reporting medical services and procedures performed by physicians and is copyrighted by the American Medical Association.

SOURCE: Health Care Financing Administration Common Procedure Coding System 1985; American Medical Association: Physicians Current Procedure Terminology, Fourth Edition, Fall 1977. (Copyright 1977, 1980, 1981, 1982, 1983, 1984 and 1985: Used with the permission of the American Medical Association).

Table 1.17b

HCFA common procedure coding system: Operations on the spine (partial listing)

22100	Partial resection of vertebral component, spinous processes (eg. "kissing" spines); cervical
22101	Partial resection of vertebral component, spinous processes (eg."kissing" spines); thoracic
22102	Partial resection of vertebral component, spinous processes (eg. "kissing spines"); lumbar
22105	Partial resection of vertebral component for tumor (eg. partial facetectomy, without primary grafting); cervical
22106	Partial resection of vertebral component for tumor (eg. partial facetectomy, without primary grafting); thoracic
22107	Partial resection of vertebral component for tumor (eg. partial facetectomy, without primary grafting); lumbar
22110	Partial excision (craterization, saucerization) of vertebrae (eg. for osteomyelitis), cervical;
22111	Partial excision (craterization, saucerization) of vertebrae (eg. for osteomyelitis), cervical; with suction irrigation
22112	Partial excision (craterization, saucerization) of vertebrae (eg. for osteomyelitis), thoracic;
22113	Partial excision (craterization, saucerization) of vertebrae (eg. for osteomyelitis), thoracic; with suction irrigation
22114	Partial excision (craterization, saucerization) of vertebrae (eg. for osteomyelitis), lumbar;
22115	Partial excision (craterization, saucerization) of vertebrae (eg for osteomyelitis), lumbar; with suction irragation

NOTE: The HCFA Common Procedure Coding System (HCPCS) contains the American Medical Association (AMA) Physician Current Procedural Terminology Fourth Edition (CPT-4) and additional codes and modifiers for intermediary and carrier use in processing claims for medical services, and procedures and supplier services. CPT-4 is a listing of descriptive terms and numeric identifying codes and modifiers for reporting medical services and procedures performed by physicians and is copyrighted by the American Medical Association.

SOURCE: Health Care Financing Administration Common Procedure Coding System 1985; American Medical Association: Physicians Current Procedure Terminology, Fourth Edition, Fall 1977. (Copyright 1977, 1980, 1981, 1982, 1983, 1984 and 1985: Used with the permission of the American Medical Association).

Table 1.18

Hourly rates of remuneration implied by prevailing Medicare charges

Service	Prevailing Medicare Charges[1] (dollars)	Time in minutes	Dollars per hour in Surgery[3] No adj	Estimated time [4]	40% of value[5]
Surgical Procedures					
Hemorrhoidectomy	271	50.6	322	193	193
Inguinal hernia repair, unilateral	339	65.7	310	218	186
Appendectomy	339	52.2	390	272	234
Cholecystectomy	570	94.5	362	275	217
Hysterectomy	640	112.3	342	279	205
Lens extraction	678	51.6	788	679	473
Suprapubic prostatectomy	720	84.3	512	399	307
TURP	678	68.3	596	475	358
Office Visits					
General Practitioner					
Initial	20	30[6]	40		
Routine Brief	10	15	40		
Specialist					
Initial	34	30	68		
Routine Brief	15	15	60		

[1] Massachusetts, (1978).
[2] Study of Surgical Specialties in the U.S.
[3] Adjusted for the proportion of total charge ascribed to pre- and post-operative care.
[4] Adjusted by valuing the estimated time in pre- and post-operative care at $60/hour
[5] Adjusted by assuming that 40% of surgical fees is for pre- and post-operative care.
[6] Estimates which appear to be reasonable in light of data from the National Ambulatory Medical Care Survey: 1975 Summary

NOTE: TURP is transurethral prostatectomy

SOURCE: Hsiao and Stason, Table 11: Health Care Financing Review 1(2)23-28, Fall 1979.

CHAPTER TWO

SETTING PAYMENTS FOR INDIVIDUAL SERVICES

1. THE PURPOSE OF CHANGING THE WAY INDIVIDUAL PAYMENTS ARE SET. Limiting payments for the individual procedures which physicians perform is an obvious first step in controlling outlays for physician services. The previous chapter has shown that growth in the prices of individual procedures contributes less to the growth of Medicare outlays than does the growing volume and complexity of procedures. Nevertheless, the payments for individual procedures are an important short-term issue while Medicare is pursuing its central strategy of moving to capitated payments.

a. APPROACHES TO REFORMING PAYMENTS: CPR REFINEMENT, FEE SCHEDULES, AND RVS. There are three general approaches to reforming the way in which Medicare sets payments for individual services: to correct the specific problems with the CPR system, to replace CPR with determination of individual payments through a fee schedule, or to determine individual payments through an RVS (relative value scale). So much public discussion has focused on relative value scales and, to a lesser extent, fee schedules, that the possibility of refining the CPR system has received less attention. Nevertheless, most of the goals of RVS and fee schedules can be achieved through CPR refinement, and the risks of CPR reform may be lower than those of the other approaches. Briefly, these strategies differ in the following ways:

—A fee schedule defines the amount which Medicare pays for a procedure, usually based on current charges or payments. Charge-based fee schedules are

not new to Medicare. Medicare customary charge profiles and prevailing charge profiles are, in fact, schedules of maximum payments which are very similar to fee schedules. However, the charge profiles maintained by the carriers do not determine payments; profiles only limit the charge which Medicare will approve. The charge profiles leave physicians free to engage in price competition by making lower charges. The number of payments actually limited by the profiles is not known. If payments were determined by the fee schedule this competition would disappear, with complex and unpredictable results which are discussed later in this chapter.

--A relative value scale (RVS) is a table of weights which defines the relative prices for different procedures; a conversion factor, in turn, changes the relative value into a dollar price and thus converts an RVS into a fee schedule. Hospital PPS gives an example of an RVS: each DRG has a weight; the weight for a DRG is multiplied by a payment rate (conversion factor) to determine the payment for a patient in that DRG. RVSs are also used by some physicians to set their charges--a physician can establish his conversion factor and then set a price for any procedure simply by consulting any of several published RVS. The way in which 1973 prevailing charges are updated with the MEI to set maximum values for current prevailing charges effectively produces a relative value scale based on historical charges. Medicare carriers also calculate and use an RVS to impute a customary charge to a physician when the physician has no billing

history for a procedure. Although the Federal Trade Commission (FTC) has generally opposed the development and dissemination of RVSs by medical organizations, such scales are widely used. Some were developed before the FTC's position became clear (e.g: the California Relative Value Studies (California Medical Association 1980)), some have been developed by nonphysician groups (e.g: Mountain Medical Affiliates (1981) and Relative Value Studies Inc. (1984)), and one was developed by a medical group which won a court battle with the government (American Society of Anesthesiologists 1982). A limited or "skeleton" RVS could be useful to define maximum payments for currently mispriced procedures even if it were not used to set payments for all procedures.

--In contrast to fee schedules and RVS, a strategy based on CPR reform would address specific problems in CPR without creating an anti-competitive system of uniform payments or an unwieldy national system of thousands of centrally-determined prices. CPR reform might modify the present definitions of localities or groupings of specialists or group procedures together to decide payment amounts. In addition, CPR reform would probably address the inherent reasonableness of payment levels for certain procedures which are currently perceived to be mispriced. But CPR would leave intact Medicare's basic rule of paying the lowest of the actual, customary, and prevailing charges, limited by inherent reasonableness.

b. OVERVIEW OF THE CHAPTER. This chapter examines the payments which Medicare does and might make for individual physician services and suggests ways to make those prices fairer and more prudent. Section 2 describes the problem of defining current prices, an issue which would be important to creating a fee

schedule but which is also important to thinking about any reform which might alter these prices. Section 3 considers the problems of defining relative payments on some basis other than current prices, which is basic not only to creating relative value scales but also to any effort to correct "mispriced" procedures. Section 4 examines correcting payments for procedures which are mispriced in relation to other procedures requiring comparable time, skills, training, and overhead. Section 5 discusses how Medicare might set either absolute or maximum payment levels, a process which might be accomplished through refinements of the CPR system, through a fee schedule, or through setting conversion factors for an RVS. Setting payment levels includes specialty and geographic differences and also the problem of bringing payments closer to the prices at which most physicians would be willing to provide service rather than computing payments in more theoretical ways. Section 6 reviews the relation of payment restraints, fee schedules, and RVS to increases in volume and intensity of services. Section 7 examines issues of competition, negotiation, and price fixing that are raised by RVS and fee schedules, and section 8 reviews the impact of price adjustments on beneficiary liability. Finally, section 9 summarizes the chapter and argues that while fee schedules and relative value scales have useful features, Medicare should pursue a strategy of CPR reform rather than one of determining payments from a fee schedule or RVS.

The central issues in the analysis conducted in this chapter are the impact on Medicare outlays, access to care, beneficiary liability, and fairness to providers. However, the reader will find that persuasive data on these issues is rarely available. The shortage of such definitive data is one reason for pursuing a more predictable short-term strategy of CPR refinements rather than the more aggressive but uncertain strategy of implementing RVS or fee schedules.

2. DEFINING CURRENT PRICES: THE PROBLEM OF FEE SCHEDULES. A fee schedule based on current prices appears to offer a simple and straightforward approach to determining Medicare payments.

a. ADVANTAGES. A fee schedule has two clear advantages:

--In cases where assignment was not accepted, a fee schedule would enhance competition if it let a beneficiary predict how much he or she would owe after Medicare's payment for a service.

--Any fee schedule which replaced customary charge screens would remove the physician's incentive to increase charges in order to have more favorable future charge screens.

b. DISADVANTAGES. On more detailed examination, major difficulties emerge in the fee schedule approach:

--Because a fee schedule would fix payments, it would limit competition for Medicare patients; such a fee schedule might also become a basis for anti-competitive behavior if all physicians charged the fee schedule amount and for price-fixing with regard to other insurers and purchasers of care (section 7 treats this issue).

--Some physicians currently accept amounts less than a fee schedule would pay. There is no evidence that increasing payments to these physicians will be advantageous to beneficiaries or Medicare.

--Some physicians would receive less than at present. Such decreases might reduce access to care for beneficiaries or increase their out-of-pocket costs (this issue is discussed in detail below, especially in sections 6 and 8).

--Significant potential controversy surrounds the way in which current prices would be defined to create a fee schedule.

c. PROBLEMS IN DEFINING CURRENT PRICES. One reason for seeking a new basis for Medicare payments is that prevailing charge screens often reflect relative charges in 1973, updated by the Medicare Economic Index (MEI). Some charges have not risen as fast as the MEI, while others, which have risen faster, are not recognized by the Medicare system. All charge screens embody the varying locality and specialty rules applied by individual carriers. Such screens are naturally criticized as artificial and out-of-date, and as not reflecting current prices. But if "price" is the payment for which a physician is willing to perform a procedure, current charges may not reflect prices any better than do current payments.

(1) Evidence of Discounting. The reason that charges are not transaction prices is that discounting of fees, though usually called by other names, is prevalent among physicians:

--Physicians generally treat Medicaid patients for a lower payment than their usual billed fee.

--Physicians now accept assignment on more than two-thirds of Medicare claims; the average payment is based on an approved charge 25% below the submitted charge.

—Many physicians make no effort to collect Medicare coinsurance and deductibles (see chapter 5), and there is little reason to believe that they make greater efforts to collect their total bill from non-Medicare patients.

--Preferred Provider Organizations commonly require that physician members grant them a discount from their established charges.

Discounting is clearly an important issue in defining current prices for a payment system. Discounting is also important if Medicare seeks to control expenditures through competition--the discounts suggest an opportunity for Medicare to secure lower prices.

(2) Possible Definitions of Current Price. There are at least four possible ways to define current price:

--The average approved charge for each procedure. This method would closely approximate current payments but would give no consideration to current complaints against the CPR system.

--A slightly different basis would be a percentage of the Medicare prevailing charge for each procedure. The prevailing charge is not the average allowed charge because many physicians are allowed less than the prevailing charge. (A fee schedule which incorporated current prevailing charge screens would thus increase total program outlays).

—A percentage of a blend of allowed and submitted charges. Such a blend would recognize that approved charges may be a more appropriate measure of prices where assignment is accepted. This blend would not, however, protect against windfall profits for certain specialties because specialties with the greatest difference between submitted and approved charges also tend to have the lowest assignment rates.

—Either a percentage of the average submitted charge or a percentile of the submitted charge for each procedure. As noted above, this approach would respond to complaints about the CPR system but would assume that submitted charges are a reasonable reflection of actual community prices.

Geographic and specialty variations in discounting practices suggest that choices among these alternative ways of defining price would have significant impact on individual physicians, groups of physicians, and geographic regions if Medicare decided to base payments on a fee schedule. Such considerations might also have an impact on relative values, which are discussed in the next section.

3. DETERMINING PAYMENTS FROM FACTORS OTHER THAN PRICES--RVS. The last section addressed some of the problems inherent in determining payments from current prices. This section examines the issues raised by determining payments from factors other than prices, a question which is often but imprecisely linked to "cost-based" relative value scales. Determining prices by factors other than prices is important not only for relative value scales, which will be discussed in this section, but also for determining payments for mispriced procedures, an issue addressed in the next section.

a. ADVANTAGES AND DISADVANTAGES OF RELATIVE VALUE SCALES. In practice, the payments determined by an RVS constitute a fee schedule, and RVS share most of the advantages and disadvantages of fee schedules. The important differences are:

--Although corrections of mispriced procedures and of the "cognitive-procedural differential" can be made through CPR reform or through fee schedules, these corrections have commonly been associated with RVS.

--A consumer would compare conversion factors rather than prices when shopping for a physician. This comparison may be simpler for some consumers and more difficult for others.

--While RVS are less burdened by the problem of defining current prices than are fee schedules, RVS do require agreement on how to define the value of a procedure.

b. COST-BASED SCALES AND RELATIVE VALUES. The best-known approach to a cost-based RVS is the Hsiao-Stason study (Hsiao & Stason 1979). Hsiao and Stason, and others who have proposed cost-basing, have measured costs in terms of the cost of the physician's time and his overhead. Time is priced on the basis of a standard hourly earning plus a return on the investment made in securing the necessary training (Hsiao & Stason also considered risk and complexity in assigning value to the physician's time, a decision to be discussed further below). Overhead includes not only running an office but malpractice insurance and any necessary assistants. Such a model resembles the way in which fair returns are calculated for public utilities and has certain limitations:

--Considering medical training as if it were a financial investment by the physician is relatively arbitrary since there is little evidence that physicians actually choose specialties in this way. Treating training as an investment would result in smaller income differences between specialties than now exist (Burstein & Cromwell 1985; Hsiao & Stason 1979). However, there is substantial controversy as to the appropriate distribution of physicians among specialties. Different ways of calculating the appropriate economic return for specialty training therefore serve different social and clinical goals which are generallly not explicitly stated. The major advantage of this approach is that its economic methodology makes it appear to be objective.

--Cost-basing also implies that the prices reflect production costs. However, creators of "cost-based" scales, such as Hsiao and Stason, give more weight to factors such as complexity and risk than is justified by the contribution which those factors make to necessary time and overhead. These factors have a very modest relation to overhead costs such as malpractice premiums and an uncertain relation to physician readiness to provide service. Some physicians may demand higher payment for treating unusually difficult problems, but many may regard these problems as more interesting and prefer to treat them.

Hadley and Berenson (1985) point out that relative cost and relative value are different. Cost can be calculated, as suggested above, by studying the cost of physician time, the cost of necessary training, and the cost of overhead. But these economic analyses are still very different from value. Value means value to a patient or to a physician or to society and may include such factors as

complexity, risk, expected benefit and whether the procedure is currently performed too often or too seldom. Although it seems reasonable to include need for services as well as cost in determining prices, trying to incorporate need into payments may cause problems. Creating incentives to perform difficult and risky procedures may be undesirable; lowering the payments for a procedure which is performed too often also lowers the payment when the procedure is necessary. In such analyses there is a constant tension between creating an RVS which is clinically neutral--allowing a physician to follow his clinical judgment with neither reward nor penalty for deciding on a particular course--and a system which embodies some model of good medical practice or some social policy. The very phrase "relative value", as Hadley and Berenson point out, invites assigning higher relative prices to activities which planners or society may value--such as immunizations, prenatal care, and cognitive activities. But a more conservative response to the fact that some procedures are performed too often or too seldom is to examine whether those procedures are priced above or below other ways in which the same physician might spend his time. It is much less conservative to assume that inappropriate clinical practices are the result of pricing errors when they may result from poor clinical judgment, surpluses and shortages of specialists, or other factors.

The concept of clinical equivalence, which is sometimes used to determine prices, can produce relative values which are paradoxical or even bizarre. Under this model, a procedure receives the same relative value as a procedure which it replaces--for example, a chemical procedure to correct a herniated spinal disk gets the same relative value as a surgical procedure. The problems with this approach

become clear in an extreme example: the surgical second opinion. A second opinion as to the value of surgery would have the relative value of the surgery if it convinced the patient not to have surgery and a negative value if it convinced a wavering patient to have surgery. Neither of these values would necessarily reflect what effort was expended or what was good for the patient.

Further, the choice of factors to consider in determining relative value is itself value-laden. It is not possible on technical grounds alone to determine that a particular set of factors is correct. Such issues are more easily resolved when discussed by physicians within a specialty who share similar practice patterns than when discussed between specialties by physicians whose practices are very different. For example, surgeons tend to have a relatively easier time agreeing among themselves on the relative values of two surgical procedures; surgeons and non-surgeons have a relatively more difficult time agreeing on the relative values of a surgical procedure and a medical consultation. Discussion becomes even more difficult when decisions could result in significant income transfers between specialties.

Despite these many difficulties, several medical specialty groups already have work in this area under way, and HCFA has a project of this kind in progress under cooperative agreement with Harvard University. The caution which will be necessary in developing RVS reflects the need to develop consensus carefully and across a broad range of interests (see section 7). Despite widespread use of mathematical procedures, the choice of a method for creating RVS will involve many subjective judgments.

In this regard, a simulation conducted by Marilyn Moon (1985) at Urban Institute is interesting and somewhat reassuring. Moon simulated the effects of increasing payments for office visits by 10% while making a offsetting pro rata reduction in payments for all other services. This simulation used 1980 data from California and was limited to impact on California physicians. Moon developed a common value for each procedure across all specialties, and did not attempt to estimate changes in physician or patient behavior which might result from these changes in payments.

She examined five specialties--general practice, general surgery, internal medicine, orthopedic surgery, and ophthalmology. No specialty experienced a loss of more than 1.4% of Medicare revenue. This simulation suggests that steps to correct the "cognitive-procedural differential" would not result in massive payment or income shifts among specialties. Thus, it seems possible that significant changes in relative value might be accomplished without the divisiveness and controversy which would be likely if the impact on physician income were greater.

Relative prices and values might vary among localities and between specialties. Research at Urban Institute shows, however, that relative values based on charges from several different localities and from national data are very highly correlated even though the absolute prices vary widely (Table 2.1; Juba 1985). On the other hand, Hsiao et al. (1984) examined a small number of procedures and found significant variation in 1972 relative values across geographic regions. An additional technical problem may be that the inclusiveness of fees (for example, whether a separate visit charge is allowed when a minor surgical procedure is performed) will be found to vary across regions, which may distort relative prices.

If Medicare used RVS to determine payments, multiple RVS could become extremely complex to administer and could further complicate rather than simplify Medicare payment programs. A simpler solution, discussed below, would be to have specialty-specific or body-system-specific codes for some office visits or consultations. If specialty and geographic variations were to be recognized, different conversion factors rather than different RVS would probably be the most appropriate mechanism.

4. CORRECTION FOR MISPRICED PROCEDURES. A critical issue in reforming CPR is that many procedures are thought to be mispriced. Many writers (Roe 1981, ASIM 1981, AMA 1984d) believe that current charges and current insurance payments are not efficient. For Medicare, this implies changes in existing prevailing charge screens or creation of a fee schedule or RVS. Much publicity regarding mispriced procedures has focused on high technology activities such as coronary artery bypass grafting and cataract extractions. Investigators such as Epstein et al. (1984) have found evidence that very familiar procedures such as taking and interpreting an electrocardiogram also have prices quite disproportionate to the prices for other activities which take equal physician skill and time. Behind these concerns are two pricing problems:

--Some procedures tend to be introduced at high prices because of the high degree of skill and amount of time required to perform them during the development phase. The historical orientation of the CPR system then makes those prices "sticky"--the fee screens do not move downwards and physicians do not lower their prices voluntarily because the insurance system puts no pressure on them to do so. This is, therefore, an area in which Medicare might use its

market power as prudent purchaser and a prudent agent for its beneficiaries by defining more appropriate prices.

--Other procedures are incidental to physician services in a way which makes it difficult for the patient to shop effectively. For example, when a beneficiary chooses a physician he usually does not know whether an electrocardiogram will be needed and can scarcely make its cost part of deciding what physician to patronize. Here Medicare might use its market power primarily in determining a reasonable relationship between the charge for the electrocardiogram and the charge for an office visit.

The correction here could start with procedures which account for a large portion of Medicare services and payments (such as electrocardiograms) or which have had a large growth in dollar volume since the introduction of Medicare (such as coronary bypass grafting, arthroplasty, cataract surgery, and endoscopy). New prices or maximum payments could then be set for these procedures to make the incentives for performing them comparable to procedures of similar complexity, requiring similar skill and time, and having similar overhead costs. Revised payments should meet two standards of appropriateness: they should bear an appropriate relationship to other prices and they should assure that beneficiaries find many physicians willing to provide the services at the new prices.

Adjustment of prices for individual procedures, based on comparisons with similar activities of physicians who perform comparable procedures, avoids troublesome comparisons between specialties and between "degrees of complexity". The task is conceptually straightforward and, although technically demanding, appears

achievable. Some specialties and physicians may take exception to such adjustments. Nevertheless, independent preliminary work by Mark Moskowitz and Richard Egdahl at Boston University, suggests that reasonable consensus can be developed as to the methods and that reasonable reliability can be achieved in the results. The history of development of such scales as the California Relative Value Studies also suggests that physicians can reach consensus on these issues.

These adjustments might be accomplished without an RVS using the "inherent reasonableness" rule (which is part of CPR--customary, prevailing, and reasonable) to modify either prevailing charges or the fee schedules whose development is described in the preceding section.

5. MORE GENERAL ISSUES IN SETTING PAYMENTS. Determining maximum payments under CPR, determining a conversion factor for an RVS, and adjusting for changes in technology, inflation, and supply of physicians, all raise a set of common problems:

a. SPECIALTY DIFFERENTIALS. One of the most difficult issues in paying physicians is whether specialists should receive higher relative payments than generalists for performing essentially the "same" service. This problem is actually two questions--should specialists receive premiums because they are thought to have greater skills, and should specialists receive premiums for nominally identical activities because the activities are different when performed by a specialist? A specialist doing a routine physical examination when functioning as the patient's primary physician illustrates the first question: does specialty training make the specialist's performance of the routine physical better, and if so should Medicare

pay for the difference. If Medicare pays a premium to specialists for routine services which can be provided by nonspecialists, a question will rise whether the program should also reward other indicators of superior competence such as experience and community recognition. The problem of paying more to specialists is further complicated by the fact that the definition of what constitutes a specialist varies among carriers; in some cases, physicians are allowed to designate their specialty.

The second question is illustrated by a specialist performing a comprehensive initial evaluation for a self-referred patient with a specialized problem. Here there would be general professional consensus that the nonspecialist could not do the task--that is, in the first case the specialist may be doing what a nonspecialist could do but doing it better while in the second case the specialist is doing what a nonspecialist could not do. The difficulty concentrates in the coding of visits and consultations, and specialty-specific payment rates for such services may be an alternative to more refined code definitions.

In practice, although specialists do generally charge somewhat higher fees than non-specialists for procedures with the same code (Moon 1985, HCFA 1984b), a much larger portion of the difference in income between specialists and nonspecialists appears to be attributable to the fact that specialists perform a more complex mix of procedures.

Moon's (1985) simulation, referred to above, also examined the redistribution of Medicare payments between specialties which would occur if the price of a

procedure were set independent of specialty. Her payments were based on approved charges. In that simulation, there was some transfer of payments from specialists to nonspecialists, but no specialty lost more than 1.2 per cent. Thus, Moon's work suggests that specialty differentials are not necessary in order to preserve access to care.

b. GEOGRAPHIC DIFFERENCES. The issue of geographic differences encompasses both the differences between localities which a carrier defines within its area of services and the differences between whole carrier areas and between different regions of the country.

Physicians in rural areas receive lower payments per service than physicians in urban areas with the same specialty (Burney et al. 1978), but these differences are reduced when cost of living and other factors are considered (Burney et al. 1978, Newhouse et al 1982b). They also work longer hours and have higher expenditures and lower incomes (AMA 1984e). These findings interact in complex ways--for example, general/family practitioners have higher incomes in nonurban areas than in urban areas while the reverse is true for surgeons (AMA 1984f). There is some debate as to the relation of relative income to the distribution of physicians (Newhouse et al 1982b). Nevertheless, the differentials exist. For example, Medicare prevailing charges in Manhattan are about twice those in rural Mississippi (HCFA 1984b) and completely eliminating geographic differentials could create access problems or financial burdens for beneficiaries where payments were lowered. Neither Canada nor Europe have urban-rural differentials in their fee schedules. And a substantial minority of Medicare carriers provide no urban-rural differentials, though most of these carriers are in rural states. And several states

with large numbers of subdivisions have drawn lines based on clearly non-medical and non-economic criteria. This is an area in which competitive price data of the kind suggested later in this section might be extremely informative.

In summary, there is neither consensus nor overwhelming evidence regarding urban-rural or locality differentials. Standardizing the criteria for establishing localities might be a logical first step in rationalizing the system. Further, continued differentiation of localities when differences in payments are small does not appear to be neccessary.

c. SITE OF SERVICE DIFFERENTIALS Generally, Medicare payment levels for physician services do not vary by the site (e.g., office, hospital, etc.) in which the service is furnished. The exceptions are:

-- Medical visits,
-- Diagnostic services furnished in both hospital-based practices and office-based practices that include a substantial technical (labor) component, and
-- Certain services furnished in hospital outpatient departments that are also routinely provided in physician offices.

Physicians' costs vary according to the setting where the service is performed; they must pay for equipment, technical support, space, and other overhead in an office, while these costs may be paid by others in a hospital or hospital outpatient setting. Thus, overhead is likely to be lower when performing a procedure in a hospital or hospital outpatient setting. This lowered overhead may create an incentive for physicians to perform services in hospital and hospital outpatient settings, resulting

in higher total costs to Medicare. For this reason, Congress has set limits on payments for certain services in hospital outpatient settings which are lower than the limits for office-based services. Extending similar limits to inpatient services and to the remainder of nonemergency outpatient services might produce additional program savings and remove an incentive for unnecessary hospitalization.

d. UPDATES. A fee schedule or conversion factor could easily be updated periodically to take account of inflation, perhaps by using the MEI. However, such a process could freeze historical patterns into place in the face of technological change--perpetuating a major weakness of the CPR system. Thus, an update based on the MEI should be tempered by periodic recalibration of payment levels or RVS weights to reflect the economies of improved proficiency, volume, and technology. A program of specific adjustments of mispriced procedures avoids this pitfall. Thus it might be appropriate to take account of substantial changes in volume of services when making an update, at least to the extent of identifying procedures with growing volume as candidates for repricing. The issues involved in such an adjustment are discussed in detail in section 6.

e. COMPETITIVE PRICES. A fee schedule or a conversion factor can be adjusted to make prices more competitive--that is, no higher than the price which would result if most beneficiaries actively shopped for a favorable price. One difficulty in this approach is determining current prices (section 2.b). An approach of this kind implies some use of market mechanisms to set prices--for example, by securing bids from qualified physicians or by examining the costs of organizations such as HMOs which secure physician services competitively. Such methods involve many assumptions. Medicare would find very different prices by going to

physicians and determining the prices they quote (much like CPR), by identifying the actual payment made for each service (pricing), by putting Medicare's entire volume of services up for bid (bulk purchasing), and by having Medicare combine with other large insurers to demand low prices (monopsonistic pricing). Using such approaches would demand vigorous concurrent research and evaluation because these methods have not been extensively tested.

Paying the lowest price consistent with beneficiary access to care is clearly an urgent goal for Medicare and its beneficiaries. Three purely illustrative examples suggest how Medicare might move in this direction:

--Give carriers authority to establish Medicare PPOs. Such a plan might, for example, be limited to beneficiaries who purchased Medigap insurance from the carrier (see chapter 5). Beneficiaries would pay larger coinsurance if they used a non-Preferred Provider and less if they used a Preferred Provider. Preferred Providers would give Medicare a discount which would be passed to the beneficiary as a lowered Medigap premium. The magnitude of the discount which Medicare could secure would suggest the degree to which approved charge levels could be lowered.

--Expand carriers authority to decrease prices for certain procedures, and encourage them to use it. The effects of price reductions would be evaluated by determining the number of physicians still willing to provide those services to Medicare beneficiaries. Such efforts would take account of local factors such as the supply of physicians and the amounts which payers other than the carrier

were paying for the same services. For this reason, national generalizations would necessarily be cautious.

—Use formal mechanisms to determine "posted" prices and formal mechanisms to determine the impact of these posted prices on access to care. Two important criteria would be the number of physicians providing services to Medicare beneficiaries in comparison with the number providing services to other groups of patients and the number of physicians accepting assignment. By monitoring these criteria at the carrier level, Medicare could respond rapidly to prices which were set either too low or unnecessarily high and maintain a truly competitive price structure.

—Conduct community surveys of prices actually accepted by physicians for services, securing information from beneficiaries, insurers, and corporate purchasers as well as from physicians. Use this information to reset approved charge rates.

6. CONTROLLING FOR CHANGES OF VOLUME AND INTENSITY. Controlling the prices of individual services is much easier than controlling the increases in volume and intensity which have accounted for more than 40% of growth in Medicare expenditures on physician services. Medicare need not conclude that all of these increases have been medically unwarranted in order to decide to constrain them because growth in volume is one of the most available indicators that technology is evolving and that a procedure is likely to become less expensive to deliver. This problem is especially important because historically (see next section) physicians have responded to imposition of significant constraints on payments with increases

in intensity and volume of services. This section and the next will address improving coding, changing the way carriers handle coded data, and adjusting inflation updates or conversion factors to compensate for this growth; chapters 3 and 4 discuss bundling strategies to control volume/intensity increases.

a. CODE CREEP. As briefly described in chapter 1, code creep consists of upgrading the coding of a procedure to obtain higher payment without changing the service. Although this practice may be a problem, actual data is extremely sparse, and while proliferation of visit categories has been alleged to be a cause, the charge is unproven. If proliferation of categories is perceived to be a problem, HCFA could simply pay several adjacent categories at the same rate and thus reduce the effective number of categories. While proliferation of poorly specified codes may encourage code inflation, accurately specified codes have the reverse effect. Thus, while having codes for 13 different kinds of office visit may encourage practitioners to use slightly more complex codes, this effect will be reduced if the coding system specifies the length of the visit and minimized if coding is ultimately subject to occasional verification. The invitation to code creep could likewise be reduced by providing benchmark examples of each level of visit so that practitioners who tried to code accurately would have more chance of doing so. Consultation codes might also be more sharply defined. Since, as noted in the last chapter, the problem of definition is centered in the handful of codes which describe consultations and medical visits, improvement of code definition is not an unreasonable task.

b. UNBUNDLING. Unbundling consists of billing separately for an activity which was previously included in a comprehensive charge--as might happen if a

surgeon billed for a post-operative visit which had been included in a comprehensive operative fee. The use of large numbers of codes also need not result in unbundling. If, for payment purposes, a code for an office visit includes the professional component of all related diagnostic studies or if the code for a procedure includes all of the activities which go with the procedure, HCFA could have a system in which only a single billing code would be routinely paid for an encounter, which would make unbundling relatively unprofitable. This can be accomplished by carrier screening and editing procedures, leaving the physician free to code exactly what was done. For example, many carriers now routinely screen for and deny payment on office visits to surgeons soon after surgery, on the grounds that such follow-up visits are included in the surgical fee. Since these approaches are currently used, the change would be in the direction of broadening existing practices rather than creating new ones.

c. CONTROLLING USE PATTERNS. Many health insurance plans in the United States, and almost all in Canada and Europe (Reinhardt 1985) systematically review physician service profiles to identify possible patterns of excessive use. Although these programs are widespread, there is little evidence as yet that they reduce total expenditures. Volume control through review of individual services tends to be less cost-effective because the cost of review is high compared to the cost of the services reviewed. Because 40% of Medicare physician costs are medical visits, such review becomes especially problematic. On the other hand, as noted above, many carriers already use automated review screens to prevent certain kinds of unbundling.

Most advocates of cost-based pricing imply, though they often do not say, that physicians have some control over how many procedures of a type they perform and

that high payment for certain activities does result in more of those activities being performed. Some of these advocates argue that diminished incentives for technology-based procedures and diminished incentives to perform services in hospitals will effect great savings through reducing the number of procedures and the amount of hospitalization, but there is little empirical evidence for this position. Decreasing the rewards for certain procedures might lead specialists trained in those procedures to perform more in order to maintain income. But the hypothesis that physicians are generally able to generate demand for their services remains controversial (see below).

d. SPECIAL PROCEDURE PACKAGES. Mitchell et al. (1984a) have reported data indicating that for certain procedures, whether performed on an inpatient or an outpatient basis, total costs should be sufficiently uniform to allow packaging all physician bills together and making a single payment. This concept is closely allied to the concept of physician DRGs which is discussed in the next chapter, but differs in applying only to a limited number of quite homogeneous procedures such as uncomplicated hernia repair, cataract removal with lens implantation, and diagnostic bronchoscopy. The importance of the approach is that it limits the risk exposure of both Medicare and beneficiaries to provision of unnecessary added services. For example, if a single code were used and a single payment were made for cataract removal with lens implantation, national practices regarding the use of surgical assistants for this procedure would probably become significantly more homogeneous and the use of assistants for the procedure would probably become significantly less common. In addition, it is possible that sharing total payment would lead physicians to an intense and useful sensitivity to the fees which their colleagues were charging.

This implies that the total payment would be shared among the physicians involved in the service (typically, a lead physician, an anesthesiologist, a surgical assistant, a radiologist, and a pathologist). Mechanically, this sharing would present significant problems unless the lead physician were responsible for gathering together all of the applicable bills and presenting them either to the carrier (assigned) or to the patient (unassigned). The carrier would then pay assigned bills on a pro rata basis and pay the total payment to the beneficiary as reimbursement for unassigned bills.

The special procedure package approach has two limitations:

—Only a modest number of procedures could be covered because of the requirement that total costs should be highly uniform. Preliminary evidence is that even though these procedures are high volume the potential savings to Medicare would be limited compared to the significant administrative burden on physicians.

—There is some reason to believe that much of the control of the discretionary use of services could be accomplished in other ways. For example, it might be simpler to have a rule that surgical assistance at certain procedures was reimbursable only with special justification.

e. VOLUME ADJUSTMENTS OF PAYMENT LEVELS. Despite more careful definition and monitoring, the complexity of medical practice will increase. Although the payment implications of this growing complexity can be partially controlled by adjustments of relative payment levels, such controls are likely to be only partially successful. This raises the question of controlling costs through adjustments of the conversion factor or of the overall payment level—most commonly done by reducing or omitting adjustments for inflation.

The conversion factor can be used to hold expenditures to a budget target. This strategy calculates an expected volume and mix of services for the coming year and then calculates the fee schedule or conversion factor which would result in a target expenditure if that volume occurred. Independent Practice Associations (IPAs) have used this mechanism in various forms to hold payments to their members to a target budget; the Quebec provincial health plan uses a similar mechanism to hold total payments to a target; and West German sickness funds use the same method to hold payments to the fund budget. Conversion factors, even if set separately by specialty, region, and training, could be adjusted nationwide to maintain a target budget.

Although estimates will always be slightly off during a particular year, the errors can be taken into account in calculating the conversion factor for the following year so that they do not become part of an inflating base. Table 2.2 shows how this correction could work; for clarity, this example makes no allowance for either inflation or desirable increase in volume although both could be included in a real system. Thus, a conversion factor could be used to control overall growth in Medicare expenditures by revising the conversion factor downward or upward each year to compensate for increases or decreases in total service volume during the preceding year.

A model based on volume adjustments can prevent overruns within a year by having a reserve pool (money set aside during the year which is only released when final bills are in at the end of the year) comparable to that used by IPAs. But its real power lies in preventing the overruns of one year being built into the expenditure base of the following year, preventing cumulative deviations from the planned budget. The authority to control costs through

adjustments of the conversion factor or fee schedule would be important if volume/intensity increases were to accelerate.

f. UNINTENDED CONSEQUENCES FOR SPECIALTIES. Etheredge (1985) has argued that adjusting conversion factors for volume might have a particularly adverse effect on primary care physicians and general surgeons, whose total volume/intensity of service change appears to change very little, while permitting a continued growth in income for specialties such as cardiology and radiology which appear to have had growing numbers and intensity of services (Table 1.4). Despite the limitations of these data, which were discussed in chapter 1, it is clear that the impact of volume adjustments could be very different on different specialties. Under simple adjustment, those specialties whose income has grown through doing a larger number of procedures or by substituting more complex procedures for less complex procedures could continue to do well when the payments for individual procedures remain fixed or even fall. Specialties whose mix of services remains relatively unaffected by technological innovation, could do poorly under such conditions. This might increase the pressure on primary care specialties to supply an increasing number of technology-based procedures and to provide an increasing number of laboratory and radiology services from their offices.

Etheredge has argued that other specialty-specific data must be considered carefully before implementing a reform. For example, if the increase in pathologists' per-service charges has indeed been below the rate of inflation, Medicare might have increased its costs by paying pathologists from a fee schedule tied to the MEI.

Sections 3 and 6 have described ways in which an RVS might be designed to reduce unintended effects on specialties; similar procedures could be applied to fee schedules. But this entire problem would be minimized if adjustments were limited to mispriced procedures in an incremental approach to refining the CPR system. A different approach would be to thaw the present freeze selectively so as to allow inefficient differences between localities, specialties, and types of services to correct themselves. A more direct strategy would be to allow prices to increase if access problems became evident for certain kinds of procedures such as office visits, while keeping them frozen for other procedures.

g. PHYSICIAN RESPONSE TO FEE ADJUSTMENT. One problem with adjusting conversion factors or resetting the level of the entire fee schedule is that it creates no incentive for individual efficiency. Even though physicians would benefit collectively by providing only the most moderate number of services consistent with patient care, thus increasing the payment per service, each individual physician profits by providing as many services as possible. This is a problem which ethicists call the tragedy of the commons (Hardin 1968). One solution is to reduce the unit over which the calculation is made from the size of the entire medical profession to a group of physicians small enough to work together (Pauly & Langwell 1985).

If the system rests on the group of physicians providing all care for a group of patients, it is called capitation. Health Maintenance Organizations and other entities provide such care, and this process is described in detail in chapter 4. It is also possible, however, to pay for an episode of care. Medicare established this policy for hospital care in the PPS. Chapter 3 describes how a similar system might be developed for physicians. Unfortunately, methods for describing episodes of care are limited to hospital episodes, and though DRGs might

be applicable to ambulatory surgery, no satisfactory classification technique is now available for outpatient care. Thus, applying indexing to RVS conversion factors for outpatient care would risk a tragedy of the commons. Either per case or capitation payment also requires a way to assure that the group of physicians provides all of the services for a patient or for an episode of care, since there is otherwise an incentive to accept the payment, provide a little care, and let the patient get the rest of his care elsewhere.

Physicians have historically responded to fee freezes and relative downward shifts in fees by billing a larger number of more complex services (Rice 1982, Holahan et al. 1980, Holahan 1985). There is controversy as to whether this is an acute and self-limiting adjustment or whether it can go on over long periods of time; many economists believe, however, that such responses are less possible in today's more competitive market. If physicians could simply create demand to maintain a target income, the evidence of competition cited above would be hard to explain.

h. HOW MUCH DEMAND CAN PHYSICIANS GENERATE? This controversy may be summarized as follows: In a number of settings, when physician fee increases have been constrained or fees have been decreased, there was a growth in either the volume or complexity of services billed which tended to offset the fee restraints. This effect has been documented in California during the Economic Stabilization Program of the early 1970s (Holahan et al. 1980), in Colorado when Medicare charge screens were readjusted (Rice & McCall 1982b, Rice 1984), and in Ontario during a period of fee restraint (Holahan 1985). But there is also the widely held view that excessive payments for some technical procedures result in too many procedures being performed. Taking the two arguments together, it would seem that more billings result whether payments are increased or decreased. Some

evidence suggests that when payments are restrained growth occurs specifically in services over which physicians exert quite direct control (Rice 1984). For other services, profit influences the diffusion of new technology but the technology itself may account for growth in billings.

Recent data raises questions whether these patterns can continue. Table 1.14 shows that the incomes of family and general practitioners have dropped for the past 2 years, and a more recent Medical Economics survey (Owens 1985) shows only marginal increases in incomes for these groups. Primary care physicians, because they do not depend on referrals from other physicians, should be able better able to generate demand for their services. On the contrary, their income steadily drops further behind the specialists such as surgeons, cardiologists, radiologists, and anesthesiologists. Other recent AMA data shows that the total volume of visits is also relatively stable or perhaps dropping (AMA 1984f). One implication is that physicians can no longer generate demand for office visits but that specialists who use technology may be able to increase income by introducing new and more profitable procedures or perhaps by performing more procedures during a visit.

Even very recent data does not resolve the question of physicians' future ability to increase their income. The appendix to this report indicates that during the fee freeze the increase of volume and intensity of services to Medicare beneficiaries was in line with the rate before the freeze. And Medical Economics (Owens 1985) reports that income per physician rose 7.4 percent from 1983 to 1984 after being almost flat from 1982 to 1983. Both findings suggest that physicians can still increase their prices, volume, or service mix. On the other hand, less than a third of the physicians surveyed by Medical Economics expected their income to rise from 1984 to 1985, which suggests that perceived competition is extremely intense and

physicians expect their success in 1984 not to be repeated. The same report also shows continued widening of the gap between physicians who perform technology-based procedures and those who do not.

Thus, the evidence on physician ability to generate demand is somewhat mixed. But this evidence very clearly suggests that existing ability to generate demand is related to the use of technology-based procedures. This strongly suggests that the repricing of such procedures, which has been discussed above, may be a very powerful strategy for cost containment.

7. ISSUES OF NEGOTIATION, COMPETITION, AND PRICE-FIXING. Fee schedules or RVSs are extensively used in almost all other countries which retain fee-for-service medical care, and most countries include one additional element beyond those described above--formal negotiation between the government and organized medicine to determine the fee schedule. Reinhardt (1985) has argued that such an approach reflects a greater willingness in those countries to move steadily toward a more satisfactory solution rather than to seek an exactly correct formula before implementation. Such formal ongoing negotiation mechanisms are not common in this country for a variety of reasons beyond the scope of this paper, but one particular problem may be worth noting--for the United States to adopt such a strategy, it would have to give formal recognition to one or more bodies as the official representatives of the medical profession. A decision to use formal negotiations would have important implications not only for the medical profession itself but for antitrust law and a variety of other social issues. Under current antitrust law, a medical society might be considered to be restraining trade if it negotiated fees or relative values on behalf of its members. Changes in legislation would probably be necessary to allow such negotiations. A less formal system of

representation, such as that commonly used in creating advisory councils and national commissions might, however, be an alternative. Whether representatives of organized medicine are discussing relative values or absolute fees, the antitrust concerns are smaller if they merely claim to present their members' views than if they claim to be able to make a binding agreement on their members' behalf. Indeed, binding agreements that cover most or all physicians could well stifle the emerging competition in physician services, by removing incentives for individual physicians to lower their fees.

If HCFA develops a set of maximum payment amounts, a fee schedule, or an RVS, credibility with physicians, other insurers, and consumers will be valuable. Decisions which are acceptable to and accepted by most insurors and other payers are more likely to be accepted, of necessity, by physicians, and this would help protect beneficiaries from inappropriate burdens. Securing consensus on these issues raises, however, significant antitrust issues.

The FTC took the position in an advisory opinion that "there is a substantial danger" that an RVS proposed by one specialty society or group "would lead to a combination or conspiracy that restrains competition among physicians." (FTC 1985). Although this opinion does not make developing an RVS illegal, and does not apply to all situations in which an RVS might be developed, it has a chilling effect on such activity. In large part the FTC reached its conclusion from an analysis indicating that the specialty society was seeking a new RVS with an expectation that it would raise fees charged for certain services, and that members of the society were likely to agree with each other to adhere to the RVS rather than making individual pricing decisions. In the FTC analysis, the fact that relative rather than absolute price was involved and that the scale would be disseminated

without coercing its members to use it did not remove the threat to competition. If physicians got together and established an RVS which substantially reduced the incomes of some groups of physicians to the benefit of others, serious antitrust concerns would appear likely.

The FTC has been explicit that payers may develop or use an RVS unilaterally. However, the FTC opinion implies that antitrust issues might also arise if competing insurers or purchasers of physician services agree among themselves as to relative values or prices. The freedom of payers to work together in developing an RVS is therefore uncertain. Presumably, an agreement among competing insurers as to an RVS would create many of the risks which would be created by such an agreement among competing physicians.

Since RVSs pose antitrust issues for both physicians and insurers, it is important that the construction of an RVS should be under the aegis of a broadly representative group which includes physicians, beneficiary representatives, insurers, and other interested parties. Under such oversight, physicians could provide the necessary clinical and technical advice to carry through the project. This is especially true because many nonphysician groups have an interest in the process, which might affect access to care and cost of care for many kinds of services.

There is significant controversy as to whether RVS would promote competition; some argue that physicians could compete more efficiently; others argue that they would actively or passively collude to adopt the same conversion factor. To the extent that physicians adopted such a scale for setting their charges, an RVS might help beneficiaries to compare the prices of different physicians, since they would need only to compare a single conversion factor which characterized each physician

rather than the physician's charges for many different kinds and levels of service. Even if physicians do not adopt an RVS or publish their conversion factors, beneficiaries might find it helpful to know in advance what payment Medicare would make. A further problem is that a national RVS appears to make it more difficult for any payer to take advantage of any local surplus of particular specialties. Suppose, for example, that there is a surplus of ophthalmologists but a shortage of gastroenterologists; in a competitive market the price of lens procedures should fall and the price of endoscopies should rise while under an RVS the prices of their procedures would be linked.

8. BENEFICIARY LIABILITY AND ACCESS TO CARE. Evidence cited above suggests that payments for individual services might be controlled through competition without problems for beneficiaries. Nevertheless, any strategy which reduces the growth of Medicare's payments to physicians creates a risk that physicians will simply bill beneficiaries for what Medicare no longer pays. This would not only increase beneficiary liability but dilute the intended incentives for efficiency. Thus, significant changes in current payments should be made carefully and in a way which permits examination of the impact. This might be accomplished in a number of ways--through repricing an initially limited number of mispriced procedures, through a phase-in of repricing, through phased-in RVSs, or through demonstrations.

a. Monitoring Access to Care. The evidence cited in chapter 1 suggests that growing competition sharply diminishes the risk that fee reform will reduce either access to care or acceptance of assignment. But a monitoring strategy

could provide further protection for beneficiaries. To monitor access to care, Medicare could define access in terms of the number and kind of physicians providing care to Medicare beneficiaries. Initial data on patterns of physician use would be difficult to interpret, but trends would be much clearer. If Medicare beneficiaries used almost all physicians in the community and there were no changes, beneficiaries would appear to have and maintain full access to care, but there would be cause for concern if beneficiaries were served almost exclusively by a small or decreasing fraction of physicians. If beneficiaries ceased to use physicians who were, by other standards, desirable providers (e.g: board certified), then there might be a question as to whether beneficiaries still had sufficient access to care. Although this kind of monitoring would be mechanically straightforward, the results might be ambiguous at times. Nevertheless, such monitoring offers a mechanism to measure whether refinements of CPR are reducing access to quality care.

b. Monitoring Acceptance of Assignment. A second form of monitoring might address rates of acceptance of assignment. Acceptance of assignment is currently monitored primarily on a carrierwide and national basis.

c. Monitoring Reduction of Charges on Unassigned Claims. Even if assignment rates remain stable or rise slowly, it is possible for beneficiary liability to rise rapidly if physicians raise their charges. The gap between submitted charges and approved charges for cases in which assignment is not accepted is a third important area for monitoring as changes are made in payments to physicians.

9. SUMMARY. A substantial consensus now supports revising Medicare's current system of determining payments for individual physician services. This chapter has analyzed ways to revise the CPR system. The first chapter of this report set out three overall goals for physician payment reform: control Medicare outlays, maintain access to quality care, and discourage transfer of burdens to beneficiaries. As a strategy for containing Medicare costs while ensuring continued access to care and discouraging transfer of costs to beneficiaries, the methods outlined in this chapter are especially powerful because they focus on finding the lowest price at which access to quality care can be purchased and thus promise to take maximum advantage of an increasingly competitive marketplace.

This chapter has examined in detail two potential problems from changing payments--that physicians would increase the volume and intensity of services to recoup diminished payments and that beneficiaries would suffer diminished access to care and increased liability. The data examined generally suggests that physicians may no longer be as able to increase volume and intensity of services at will and that repricing of mispriced technological procedures could provide a powerful constraint on rising costs. Further, assignment rates increased rapidly despite a freeze on prices and that both access to care and assignment rates can be closely monitored.

For Medicare, the most important strategic question is whether to set payments through a fee schedule or RVS or to refine the CPR system.

Major problems with CPR are:

—CPR has provided no substantial restraint on increasing Medicare physician payments.

—Physicians are encouraged to raise charges simply in order to secure more favorable future reimbursement.

—Continued high charges are supported for services which were costly to provide when they were introduced but have become less costly with time.

—Technology-based procedures are paid more highly than activities of equal difficulty which do not use technology.

—Relative prices among specialties, geographic areas, and location of service appear to reflect neither economic costs nor public policy.

—Medicare's Customary, Prevailing and Reasonable (CPR) system involves many calculations and comparisons by the carrier, physicians occasionally and patients often may be uncertain as to what charge Medicare will allow and may have to contact the carrier in order to obtain this information.

A fee schedule would have significant advantages in dealing with these problems. Because submitted charges for the current year would no longer influence the following year's payments, the shift to a fee schedule would eliminate an

inflationary incentive of the CPR system. Instead, payments would be updated on the basis of an index such as the Medicare Economic Index or more competitive measures. Furthermore, such a system might assist the task of correcting mispriced procedures, inappropriate rewards for using technology, and inappropriate specialty, geographic, and location differentials.

A fee schedule or RVS, however, would not only limit Medicare's payments but also determine them, raising major problems:

--A fee schedule would be inherently anticompetitive and would reduce both competition in the medical marketplace and Medicare's ability to take advantage of competition.

--A fee schedule would have little inherent power for controlling Medicare outlays because it does not address service volume and intensity.

--To the extent that a fee schedule or RVS differed substantially from existing Medicare payment practices, it would require a lengthy development period which would probably overlap the general implementation of capitation for Medicare.

--The redistributive effects of fee schedules might place unnecessary burdens on beneficiaries.

—In some cases it appeared that a fee schedule would result in higher payments; there was no evidence that such increases were necessary or would result in better care for beneficiaries; this could also increase beneficiary out-of-pocket costs.

—Most of the problems with the CPR system can be corrected directly through refinements.

—In the absence of firm data to predict the impact of a fee schedule on Medicare outlays, access to care, and beneficiary liability, the more conservative approach of incremental refinements appeared more prudent.

These arguments lead to a conclusion that refinement of the CPR system should proceed by individual changes such as repricing of individual procedures, redefinition of localities, and realignment of specialty, geographic and site of service differentials rather than by development of a national fee schedule which would determine the payment for every procedure.

The Administration's 1988 budget proposes changes which will

- Establish a more reasonable payment rate for cataract surgery;

- Revise Medicare payments to new physicians by limiting their customary charges to no more than 80 percent of the prevailing charge;

Reduce inequities in Medicare payments that have evolved over

time and are not explained by differences in the cost of practice; and

- Limit specialty differentials in prevailing charges for services where there is a large disparity in a locality.

Table 2.1

Correlations between different relative value scales

Relative Value Scale	HCFA[1]	MMA[2]	HIAA[3]	CAL 1974[4]
CAL 1978[5]	.997	.968	.999	.998
sample	(n=83)	(n=77)	(n=13)	(n=82)
ratio	.72	.91	.72	1.22
CAL 1974	.997	.963	.999	
sample	(n=82)	(n=76)	(n=13)	
ratio	.89	1.11	.89	
HIAA	.958	.975		
sample	(n=21)	(n=21)		
ratio	.94	1.34		
MMA	.962			
sample	(n=95)			
ratio	.85			

[1] From HCFA 1982 Prevailing Charge Data.
[2] Developed by Mountain Medical Associates.
[3] From Health Insurance Association of America 1978 data.
[4] From California 1974 data.
[5] From California 1978 data.

NOTES: Correlation coefficient is the coefficient for a regression with the constant forced to zero so that the values of the scales are true ratios to one another. Sample (n) is the number of procedures whose relative value was used in computing the correlation coefficient. Ratio is the ratio of the average charge or relative value from the scale in the column to the average charge or relative value of the scale in the row.

SOURCE: Juba, D.: unpublished data. Washington. Urban Institute, 1985.

Table 2.2

Example of use of conversion factor to hold target budget

Year	Projected relative value volume in millions	Target budget in billions	Conversion factor	Actual admission volume in millions	Actual payments in billions
1986	200	$ 20	$100.0	210	$21.0
1987	215	20	90.0	218	20.3
1988	226	20	88.5	225	19.9

CHAPTER THREE

USING DRGs TO DETERMINE INPATIENT PHYSICIAN PAYMENTS: PPSP

This chapter analyzes the feasibility and advisability of determining payments for inpatient physician services using a DRG-type system. It is divided into three parts:

--An analysis of how DRGs relate to physician charges (Part A). This part shows that the DRG system does adequately predict average Medicare approved physician charges per admission for medical staff or hospitals.

--A description of how a Prospective Payment System for Physicians (PPSP) could be built on DRGs (Part B). This part shows that although such a system is theoretically feasible it might generate complex and untested administrative systems. Depending upon the precise design specifications such a system could produce substantial increases in beneficiary liability unless accompanied by other features. The Administration opposes one of several possible approaches to limiting beneficiary liability, mandatory assignment.

--An evaluation of the advisability of such a system (Part C). This part shows that while physician DRGs are an interesting and possibly useful tool, they represent a substantial departure from current billing and reimbursement practices. However, a more limited form of physician prospective payment for inpatient radiology, anesthesiology and pathology services is promising and has been developed as a legislative proposal and 1988 budget initiative.

The last chapter described the fundamental problem of containing cost by changing

the prices of individual procedures. There is little control over the total volume of procedures or the growing intensity of services except to the extent that carefully set prices may reduce the incentives to increase services unnecessarily. Medicare faced a similar problem in containing hospital costs—that the volume and complexity of services, as well as their price, were increasing uncontrollably. The solution to that trend was to bundle hospital services together into a package--the hospital stay—and to pay for the hospital stay as a single unit of service. Bundling was expected to create equitable limits on expenditures and powerful incentives to select an efficient mix of services during the stay. This solution was implemented through PPS, based on DRGs: PPS pays the hospital an amount determined by the DRG to which the stay is assigned. Since the payment is independent of the cost of treatment actually rendered, PPS creates both cost control and a powerful incentive for efficiency. DRGs for physicians offer a comparable powerful incentive for physicians to select an economical and efficient mix of services.

A. DRGs AND PHYSICIAN CHARGES. The hospital PPS was based, in part, on evidence about the way in which DRGs could explain or predict the cost of a patient's treatment (Pettengill & Vertrees 1982, HHS 1982). Part A of this chapter provides similar, and sometimes more detailed, information about the relation of DRGs to approved physician charges.

A-1. THE AVAILABILITY OF NECESSARY DATA. When Congress passed PPS, it was natural to ask whether a similar system could be applied to physician payments. At that time, very little was known about the magnitude of physician payments

associated with different kinds of hospital stays, and the ability of HCFA's data system to accurately associate approved physician charges with individual DRGs was uncertain. In consequence, Congress directed HCFA to develop the statistical capability to make the necessary assignment of physician charges to DRGs; Congress then instructed HCFA to assess the advisability and feasibility of using DRGs for physician inpatient services.

Since that mandate, the Department has supported three important research efforts in this area. The largest is that directed by Janet Mitchell of the Center for Health Economics Research, which has examined data from four States—Michigan, New Jersey, North Carolina, and Washington. The second is directed by Howard West at Mandex and has examined data from South Carolina and Florida. The third is an internal HCFA effort guided by Ira Burney and Marilyn Newton which has examined a national sample of Part A and Part B data. This intensive research started with resolution of the data problems described in the last paragraph.

Two investigators have described the technical problems involved in merging data from Part A and Part B (Mitchell et al., 1984b, West et al., 1985) to produce the necessary information and to compute physician payment weights for DRGs. In brief, this technical problem has been solved by a number of investigators with results which are sufficiently consistent to suggest that the merging of data is not a serious obstacle to investigation of physician DRGs. HCFA now has a fully-operational data system which can link its 5 percent sample of Part B claims (BMAD) with Part A bills (PATBILL).

Research has now moved on to provide a picture of what physician charges are associated with individual DRGs, how much variation there is in approved physician charges associated with these DRGs, and how DRGs might become the basis of a payment system. Further research has provided a picture of the adequacy of DRGs for such a payment system and of the impact of such a payment system.

A-2. DRGs AND PPS. The DRG system is an exhaustive and unique classification system for hospital discharges—exhaustive in that every discharge is assigned to a DRG and unique in that no discharge is assigned to more than one DRG. The DRG system first classifies a hospital stay into one of 23 Major Diagnostic Categories (MDCs) on the basis of the body system associated with the diagnosis which caused the admission (the principal diagnosis). The hospital stay is then assigned to a specific DRG within the MDC on the basis of principal and secondary diagnoses, procedures performed, and age, with occasional use of other variables such as discharge status. There are 468 DRGs within the MDCs, one DRG for stays where surgery is inconsistent with the principal diagnosis, and two DRGs for unclassifiable stays. The DRG system was developed to group together patients having similar hospital treatment requirements and thus similar expected hospital costs. Since the DRG system was developed to classify patients according to their need for hospital care, there was no a priori reason to expect that it would be as effective for physician charges as for hospital costs. One research priority was determining whether DRGs did group patients with similar approved charges together.

For hospital payment, HCFA developed a PPS based on the DRG classification system. PPS was carefully designed to correct some known and suspected limitations of the DRG system. For example:

—Because the DRG system does not classify unusually expensive or long stay cases well, PPS includes an outlier payment system to complement payments based on the DRG.

—Because the DRG system does not use information as to whether a patient was referred from another hospital to classify hospital stays, it was suspected that DRGs did not reflect the selective concentration of difficult cases in teaching hospitals which results from referral patterns. PPS therefore includes a special payment adjustment for teaching hospitals.

—Because the DRG system does not appear to classify hospital stays well for certain kinds of specialty hospitals (children's, rehabilitation, and psychiatric hospitals), Medicare continues to pay for stays in those hospitals and in corresponding specialty units of general hospitals under the cost-based TEFRA regulations which preceded PPS.

For this reason, a system like DRGs should be evaluated in the context of the payment system based on it. Issues such as outliers, teaching, and the level at which payments are averaged (see below) must all be considered before determining whether DRGs are an adequate basis for a hospital or physician payment system.

There are several criteria for assessing a payment system based on a patient classification system such as DRGs, but the most important (Jencks et al., 1984) is that it should result in payments which are fairly related to the average treatment requirements of the patients cared for by the entity to which payment is made. This criterion is important because it recognizes that the DRG system, like any classification system, places somewhat dissimilar patients together in groups and can, therefore, only be accurate when it averages them together. DRGs would be a poor basis for a system which had to be accurate for every patient—for example, indemnity payments were made to reimburse patients who had paid cost-based hospital bills. If hospitals can select patients who will need less than the average amount of treatment for the DRG in which they are classified, the system can be "gamed" and payments may no longer be fair. Nevertheless, the fairness of PPS is best measured by the appropriateness of total payments to total treatment needs of all patients admitted to the hospital; the appropriateness of individual payments is only important to the extent that such individual appropriateness is necessary to prevent gaming. For example, no Medicare payment system should provide incentives to a provider to deny admission (or to instigate transfer) of a patient who needs or is expected to need above average quantities or intensities of care which the provider is capable of providing.

Similarly, the adequacy of PPS for physicians can only be assessed in terms of the entity to which payment is made. When the risk of over- or under-payment is averaged over many cases, it is usual to speak of "risk pooling." The

size and nature of the organization over which risk is pooled is critical to the workability of a DRG-based system. This issue is discussed further below and in Part B of this chapter.

Despite the importance of designing a payment system which complements the classification system, it is necessary first to describe how well the classification system actually places together patients with similar approved charges--or, put another way, the explanatory power of the system with regard to charges.

A-3. TOTAL CHARGES FOR PHYSICIAN INPATIENT SERVICES. Elsewhere, this report emphasizes the importance of the difference between actual physician charges, the cost of providing a physician service, the charges allowed by Medicare, and the actual amounts which physicians accept as payment. In discussing the cost of physician hospital services, however, it is useful to focus on the charges approved by Medicare because these are the currently recognized costs of care and would presumably be the basis of payments calculated under a DRG-based payment system. Thus, in this chapter physician charges means Medicare approved charges and the term cost is avoided for physician services. For hospital services, however, the term cost is used because cost is the original basis for Medicare payments to hospitals.

Table 3.1 shows the approved physician charges and the allowable hospital costs associated with hospital stays in 25 DRGs across four states and for the country. From these approved charges it is possible to calculate relative values (called DRG weights) for physician services. These relative weights are presented in Table 3.2, again

compared with the corresponding relative weights for hospital services. The simple correlations between physician relative weight scales from the four States are quite high (0.95-0.96) (Mitchell et al., 1985). Physician weights tend to be similar to the hospital weights, and the simple correlation between the two sets of weights ranges from 0.71 to 0.84 in the four states (Mitchell et al., 1985, p. 7). Nevertheless, there are differences between hospital and physician weights for some DRGs (hospital weights are substantially lower than physician weights for some surgical procedures such as lens procedures (DRG 39) and transurethral resection of the prostate (DRGs 336, 337), and significantly higher for some medical cases such as cerebrovascular disease (DRG 14)). Correlations of 0.71 to 0.84 mean that the hospital DRG weight explains only 50 to 71 percent of the variance in the physician DRG weight. Thus, it is possible to conclude that determining payment for physician services simply as a constant percentage of payment for hospital services would sacrifice precision. Also, our measurements are limited to observations of what has been happening in physician care of inpatients, rather than what "should be" happening. Hence, we are not yet able to explain why the observed differences in relative weights exist.

A-4. VARIATION IN CHARGES AS EXPLAINED BY DRGs. Because these weights are averages, it is extremely important to examine the degree to which individual cases differ from the average. There are two ways of describing the average difference or average variation. The first is called the coefficient of variation (CV) and expresses the average variation (or standard deviation) as a fraction of the average value (or mean). A CV of 1.00 therefore means that the standard deviation is as great as the average value—if the average total approved physician charges were $1,000 and the CV were 1.00, then the standard deviation of the charges from the mean in that DRG

would also be $1,000. This does not, of course, imply a number of cases were treated for no charge; most of the variation is accounted for by cases which are far above the average. Table 3.3 shows the coefficients of variation for physician charges and hospital costs for four States. The degree of variability is itself quite variable—relatively low for lens procedures (DRG 39) and major joint procedures (DRG 209) and relatively high for diabetes (DRG 294) and pneumonia (DRGs 89 and 90) for both physician charges and hospital costs. Almost uniformly, however, CVs for physician payments are lower than those for hospital costs.

Another way of describing the variability of charges per case within a DRG is R^2. In examining DRGs, R^2 is the fraction of total variation in physician payments which occurs between DRGs. If there is a great deal of variation among average payments for the DRGs and the payments for patients in each DRG are very much alike, R^2 will be close to 1.00; if there is a great deal of variation in payment between patients in a DRG and relatively little difference in averages among DRGs, R^2 will be close to 0.00. Put another way, R^2 shows how much of the variation in case charge is "accounted for" or "explained" by the DRG classification system. Table 3.4 displays R^2 for both physician charges and hospital costs. This information is striking and important. Although the DRG classification system was developed using hospital data to describe hospital costs, it explains physician charges better than hospital costs. In both multi-State and national data, DRGs consistently explain twice as much of the variation in physician charges as in hospital costs. This can be put another way: if, on statistical grounds, DRGs are an adequate basis for a hospital payment system, then they are a more adequate basis for a physician payment system.

A-5. SURGICAL AND NONSURGICAL DRGs. If Medicare were to use a DRG system for paying attending physicians directly on a case-by-case basis, the system should have acceptable explanatory power for certain types of cases. For example, a system based on DRGs might pay surgical cases quite accurately but pay nonsurgical cases in a way which had little relation to services rendered. A simple test shows that explanatory power is very different for surgical and nonsurgical stays. Table 3.5 shows the explanatory power of DRGs for surgical and nonsurgical cases. The explanatory power for surgical cases is very high; power for medical cases is far lower. This finding has significant implications for design of a physician payment system: the most apparent being that if payment were made to individual physicians on a case-by-case basis, payment would be much more accurate for surgical than for nonsurgical cases.

The striking differences in DRGs for explaining surgical and nonsurgical cases invites discussion. First, it is clear that the explanatory power for either surgical or nonsurgical cases is lower than the overall explanatory power. This finding results from the significant difference in approved charges per case between surgical and nonsurgical cases. When the goal is predicting approved physician charges per case, knowing the percentage of surgical cases in a hospital provides a great deal of information as to whether physician charges will be high or low because surgical cases have much higher average charges. The availability of this information more than balances the fact that DRGs do not explain the cost of nonsurgical cases well. This is why the explanatory power for all cases combined is higher than the explanatory power for either group of cases alone.

This finding is so counter intuitive that many investigators have dismissed it as an artifact, but relatively simple calculations show that DRGs account for more variation in average physician costs at the hospital level when nonsurgeons are included than when they are excluded. Thus, even surgeons are at lower risk when nonsurgeons are included. Clearly this does not solve the problem of how a hospital or medical staff would distribute payments to the nonsurgeons when DRG-based payments did not closely reflect charges which would usually be made for a case, an issue discussed in the next part of this chapter. Nevertheless, the superior performance of DRGs for all cases compared to DRGs for surgery alone or for nonsurgery alone suggests that pooling risk over a hospital or a medical staff may be more appropriate than pooling risk over individual physicians or individual departments.

The difference in performance of DRGs for surgical and nonsurgical cases appears to involve several factors:

—The surgeon's bill is the majority of physician charges for most surgical cases (Mitchell et al., 1984a, 1984b, West et al., 1985) and surgeons have traditionally made a single comprehensive charge for all of their care associated with a surgical activity. Thus, DRGs describe services in a way which is closely allied to the way surgeons have always done business.

—The mix of services for surgical cases varies less widely than that for medical cases.

--Surgical DRGs tend to be more clinically homogeneous than medical DRGs because the use of surgery to classify the case into a DRG means that all cases in the DRG have in common both the condition which caused the admission and use of very similar surgical treatment.

—Cases in a medical DRG have in common a medical diagnosis. However, similar diagnoses are often quite clinically heterogeneous and treatment patterns are even more varied (Iezzoni & Moskowitz 1984).

—Surgical billing is limited by CPR charge screens more than is medical billing (McMillan et al., 1985); in consequence, surgical DRGs probably come closer to already being paid by a fee schedule than do medical DRGs.

A-6. DRGs AT THE LEVEL OF THE HOSPITAL OR MEDICAL STAFF. If a DRG-based system were to make payments to the hospital or to the medical staff, then risk would be pooled across all stays in that hospital. The critical question would then be how well DRGs could predict variation in average physician charge per case between hospitals rather than how well DRGs explained the variation in per case charge within the hospital. There is much more variation in charge per case within hospitals than in average charge per case between hospitals, because much of the variation within hospitals tends to average out when the large numbers of cases constituting a hospital's case mix are considered (Mitchell et al., 1984b). Thus, it is quite possible that the explanatory power of DRGs for charges per case within a hospital will be quite different from the explanatory power for differences in

average charge per case between hospitals. R^2 at the hospital level is the same statistic used for describing the validity of DRGs for hospital PPS (Pettengill & Vertrees 1982).

Table 3.6 shows R^2 as a measure of how well DRGs predict average approved physician charges per case for a hospital or medical staff (Mitchell et al 1985). Using national data, Pettengill and Vertrees found that case mix, measured by DRGs, explained 36 percent of the variation in average hospital cost per case. This finding can reasonably be compared to Mitchell's finding that DRGs explain 53 percent of the variation in average physician charges for Michigan, New Jersey, North Carolina, and Washington taken together.

Because the R^2 statistic is more influenced by a few unusual cases or "outliers" than is the hospital budget*, it is also informative to look at the actual changes in reimbursement which medical staffs would experience. Table 3.7 shows the percent of medical staffs which would experience varying gains or losses. Table 3.8 shows the same information expressed in percent of Medicare revenue. It is clear that few medical staffs would experience substantial changes under a DRG-based system. This calculation does not include possible refinements, such as standardization for practice cost variation or special outlier payment formulas, which might further reduce losses and gains.

*R^2 is calculated using the square of differences between expected and observed values. In balancing a budget, two payments a dollar below the expected value are balanced by one payment two dollars above; in calculating R^2, the payment two dollars above has twice the weight of the two payments a dollar below. West et al. (1985) provide examples of the way in which outliers with modest dollar value cause great changes in R^2.

A-7. TEACHING, SPECIALIZATION, AND OTHER PARAMETERS. Because factors such as hospital teaching activity, size, and public ownership have been of great concern in the payment of hospital costs under PPS, the effect of these factors on physician payments is also of interest; the effect of physician specialty is also pertinent. While each of these analyses is suggestive of which groups would win and which would lose, actual winners and losers might be quite different. This is likely because many medical staffs would respond to the incentives of DRGs by adopting more efficient practice patterns.

a. TEACHING ACTIVITY. In understanding the adequacy of DRGs to account for physician charges, an important finding is the lack of any strong, consistent relation between the teaching status of hospitals and the average winner/loser status under a DRG-based system (Table 3.9). The largest average loss, in Michigan, is about 5.8 percent of average approved charges; in New Jersey, medical staffs in teaching hospitals gain an average of 1.1 percent; in North Carolina they lose an average of 2.1 percent; in Washington they lose an average of 0.2 percent. Although more extensive national data might show a systematic relationship of teaching to average gains or losses, the trends seen in these four States are exceedingly modest.

The most likely explanation for these results is a somewhat variable balance between increased use of physician services in teaching hospitals and substitution of services of interns and residents (paid for by Part A to the hospital) for services of staff physicians (paid by Part B). It is likely that the inconsistent State-by-State patterns reflect variations in the extent to which residents and interns substitute for

teaching staff physicians who would otherwise submit bills and in the extent to which teaching physicians bill for work performed by residents and interns under their supervision. Where there is extensive substitution, teaching hospitals would be expected to do well under physician DRGs and vice versa.

b. SIZE, OWNERSHIP, AND SPECIALIZATION. Table 3.10 compares hospitals whose medical staffs would lose more than 20 percent of Medicare revenue and with hospitals where such losses would not occur. There are no consistent patterns suggesting that size, location, or ownership/control explain losses. Nor does examination of the kinds of services rendered by losing hospitals show that they are more specialized. Finally, examination of the patterns of charges does not reveal obvious groupings. Thus, it does not appear that a particular class of hospitals or medical staffs has problems which would make that class losers under a physician payment system based on DRGs.

c. PHYSICIAN SPECIALTY. At the individual physician level, patients attended by specialists tend to have higher total approved physician charges and higher numbers of services, whether examined on a DRG-specific basis or across all DRGs (Tables 3.11-3.13). It is difficult to determine whether this is the result of specialists treating more difficult cases or of their using more and more costly physician services to treat similar cases.

A-8. THE VARIATION IN PHYSICIAN SERVICES PROVIDED DURING HOSPITALIZATION.

There are wide variations in how physicians treat apparently similar patients, and

these variations extend to the use of physician services as well as to the use of hospital services. Tables 3.14-3.16 show rates at which physicians use routine hospital visits, assistants at surgery, and consultations in treatment of patients in the same DRG in four States. Many explanations are, of course, possible for such findings:

--Different diagnostic coding practices may result in some variation of the patients who are assigned to the same DRG and in assignment of the same patient to different DRGs in different States. There is substantial evidence that such variation does, in fact, occur and could have this effect (Iezzoni & Moskowitz 1984). Nevertheless, it is difficult to explain the variation in use of surgical assistants on this basis.

--In different States there may be different thresholds of severity of illness which determine admission to hospitals. This hypothesis is consistent with differences in hospitalization rates observed by Wennberg et al. (1984) and others. Such variation will result in some States having more severely ill patients in hospital and in a different mix of patients.

--Resources may be more available in some States than in others. This may, for example, result in more use of procedures such as computerized tomography and endoscopy.

Examination of specific data suggests, however, that these explanations are not adequate to account for the variations in practice reflected in Tables 3.14-3.16. Table 3.17 shows the rate at which various services are used for patients classified in DRG 39, lens procedures. The variation in use of assistant surgeons is dramatic—from 2 percent in North Carolina to 76 percent in New Jersey as is the variation in volume of billing for routine hospital visits (60 percent of cases in New Jersey, 5 percent in North Carolina) and consultations (43 percent in New Jersey, 4 percent in Washington). It is not apparent how resource limitations, variations in severity, or differences in coding could account for differences of this magnitude. In some States the intensive use of assistant surgeons is embodied in State law, but it is unclear whether taxpayers and premium payers in States without such laws should subsidize States which have such laws, especially when there is no evidence that such practice differences result in different patient outcomes.

Table 3.18 shows that such variation occurs in medical cases as well as surgical cases. The frequency of endoscopy for patients with gastrointestinal hemorrhage is almost twice as high in New Jersey as in North Carolina, and this is only partly because endoscopy is substituted for x-rays. These findings suggest that the variations between States for management of angina and pneumonia (Tables 3.12 and 3.13) also represent real difference in practice style rather than artifacts of case definition.

Such data, derived from bill records, must be approached with caution. In the absence of medical record review, it is not possible to assert confidently that one pattern of treatment is appropriate and another inappropriate; nor is it possible to conclude that patients benefit more from one pattern of treatment than another. Although it is conceivable that the clinical needs of patients differed as much as these data suggest, it seems far more likely that these patterns reflect differences in clinical practice. Wennberg et al. (1984) have documented similar differences in practice in his studies of the frequencies of various kinds of hospitalization; List (1983) has shown that comparable variations in length of stay for patients with heart attack cannot be explained by sociodemographic factors but are well explained by differing clinical assumptions.

Mitchell et al. (1985) also show that there is far greater variability within some States than others, both in treatment patterns and in length of stay. Greater variability of practice is found in States with longer average stays. This data can be interpreted either as indicating that if physicians get patients in and out quickly there is less time for patient care activities which some physicians would judge unnecessary or as indicating that consistency in patterns of care includes consistency in length of stay.

The policy question implicit in this data is whether a program such as Medicare, with finite resources, can afford to support these widely differing styles of practice. This is especially a matter of concern when tax and premium dollars are pooled at a national level and differences in practice style translate into transfers of funds from areas with less expensive practice patterns to areas with more expensive practice

A-9 DRGs v. OTHER CASE CLASSIFICATION SYSTEMS. There are several other classification systems for describing the treatment needs of hospital inpatients (HCFA 1984a). None of these except DRGs are, at this time, suitable for the kinds of analyses described in this chapter:

—Staging (Conklin et al., 1984) is a fully automated system which operates from data available in computerized record systems. The Staging program, however, assigns a patient to multiple categories and provides no mechanism for integrating these multiple assignments. In addition, because it does not consider surgery actually performed, it appears to discriminate against referral surgical centers (Coffey & Goldfarb 1985) and would almost certainly lose much of the power which the DRG system derives from its use of surgery as a classification variable. Finally, there are significant unresolved problems with the Staging computer program which made further analysis inappropriate at this time (Calore 1985).

—Patient Management Categories (Young 1984) is a potentially fully-computerized system which operates on data available in computerized record systems. The computer program has not, however, been fully tested and was not available for this report.

—Severity of Illness Score (Horn et al., 1984) is a noncomputerized system which requires individual rating of charts by a trained rater. Information regarding a nationally-representative sample of discharges suitable for assessing the application of severity to physician payment

application of severity to physician payment is not available, and collecting such data in the time available was impractical. In addition, there are unresolved questions regarding standardization and reliability for Severity of Illness Score.

—Acute Physiology and Chronic Health Evaluation (APACHE II) (Wagner & Draper 1984) is a method of scoring severity of patient illness based on physical measurements such as temperature, blood pressure, and laboratory tests. Although very promising for predicting hospital costs of patients in intensive care, APACHE II is almost untested for routine admissions, and no suitable data were available for testing its application to physician charges.

—Medical Illness Severity Grouping System (MEDISGRPS)(Brewster 1984) is a method of scoring severity of patient illness which relies more on routine clinical findings and less on laboratory tests than does APACHE II. This method is also relatively new, little has been published regarding its specific properties, and no suitable data were available for testing its application to physician charges.

CHAPTER THREE — PART B

THE DESIGN OF A PHYSICIAN PAYMENT SYSTEM BASED ON DRGs: PPSP

This part of Chapter 3 discusses design of a PPS which could use DRGs to determine the amounts to be paid for inpatient hospital services provided by physicians. In exploring alternative designs, HCFA has looked both for a system which could be implemented in the immediate future and for alternatives which would be more suited to demonstrations. Because of the analogies to the hospital PPS, these payment systems are collectively referred to as PPSP.

Section B-1 describes the alternatives as to who should receive the PPSP payment. This section concludes that risk should probably be pooled at the hospital or medical staff level. Section B-2 describes a system which would directly pay the medical staff; this system would be feasible for immediate national implementation if physician DRGs are desirable and if Medicare were to mandate that all physicians accept assignment for inpatient care or if an option was exercised to limit balance billing. Section B-3 describes possible designs for transitional systems for medical staffs which are reluctant or unable to participate immediately in the system described in B-2. Risk would be pooled at the medical staff level and payment would be made to individual physicians or beneficiaries. Section B-4 describes how PPSP payments could be set and B-5 discusses the incentives under PPSP. Section B-6 describes relevant experience from other payment systems. Section B-7 considers impact of PPSP on beneficiaries and the interaction of decisions on assignment and copayment with the liabilities of beneficiaries under PPSP.

B-1. "WHO TO PAY". Over the past few years, using DRGs for physician payment has been extensively discussed in many arenas, almost always as a system of paying either the attending physician or the hospital a single sum of money for all physician services during a hospitalization. The approach described in this chapter emerged from an analysis which indicated that neither of these proposals nor several other apparent alternatives was suitable for immediate national implementation. This section describes the analytic process by which the present recommendation on who to pay was reached.

The most difficult and contentious issue in designing a system for determining physician payments using DRGs is deciding who should receive the actual payment. In hospital prospective payment this question was simple and never raised real questions. Medicare Part A had always paid the hospital; the hospital was a corporate entity well designed for receiving the payment; hospitals had never been allowed to bill Medicare patients beyond deductibles and coinsurance; and the hospital was already in the business of redistributing payments it received among employees, suppliers, and contractors. By contrast, there are few health care settings other than prepaid health plans where a corporate entity exists which currently receives a single payment for all physician services. HCFA examined a number of options:

a. PAY THE ATTENDING PHYSICIAN. Under this model, either the attending physician would be responsible for paying the bills of other physicians out of his payment, or the attending physician would be responsible for dividing the payment among himself and other physicians on a pro rata basis. The former approach would give the physician very strong incentives to be cost sensitive, since he would be paying for all other physician services out of his own pocket but it would create a

risk that, with such strong incentives, the physician might skimp on necessary services. The latter model would reduce these incentives somewhat and cushion risk but would be difficult to administer. There were three arguments against either of these approaches:

(1) Although the DRG system describes charges very well when cases are aggregated at the hospital level, it describes charges very poorly for nonsurgical cases and hence for nonsurgical specialties. The R^2 statistics reported in Table 3.5 show that DRGs account for only 5-10 percent of the variation in case charges for nonsurgical cases. This means that paying nonsurgical physicians using a DRG-type system would be only slightly better than paying a uniform percase rate for all medical cases without even examining the cases being treated. Table 3.19 shows the income redistribution which would occur for the average attending physician in various specialties.

Because of the performance of DRGs for nonsurgical cases, it would not be possible to justify the fairness of this redistribution of income for nonsurgeons. The nonsurgical subspecialists, who would be at high risk to lose a large fraction of their income, could make a persuasive argument that they were being penalized for accepting patients with greater treatment needs. Although subspecialists might lose out to the less specialized physicians if payment were made through the medical staff, they would at least have an opportunity to make their case to other clinicians in clinical terms. An additional problem is that the figures for specialties are only averages; within specialties there are further variations in how much individuals win and lose. Mitchell found that 18-

26 percent of physicians would lose more than $150 per case (Table 3.20). West found a similar high likelihood of serious income redistributions for non surgeons (West et al., 1985).

Mitchell also analyzed, for the State of Michigan, the relationship between gain or loss by specialty of attending physician and average total payment (Table 3.21). This analysis generally shows that even after significant gains or losses, the physician would receive a substantial payment. Nevertheless, the magnitude of the risk, especially for medical specialties, is large enough to call in question the appropriateness of reimbursing for individual medical cases using DRGs. Designing an equitable system for paying nonsurgical cases would require attenuating these risks, by blending actual charges with the DRG-based payment or in other ways, but satisfactory ways to do this in a payment system are not yet clear. This persisting problem with the nonsurgical cases suggests that an immediately workable DRG-based physician payment system should combine surgical and nonsurgical cases, by paying at the hospital or medical staff level.

(2) The DRG system works on averages, and a physician with a small number of cases might by chance have unusually difficult patients and be seriously underpaid for their care. In Mitchell's data, the average physician admitted about 40 Medicare patients a year. With an average coefficient of variation of 1.00, which is typical for nonsurgical DRGs, the risks of serious gains and losses from random variation among cases is very high—about a third of physicians would find their Medicare income increased or decreased by 15 percent (or almost 5 percent of total income) simply because they found themselves

treating unusual cases. If the attending physician paid other physicians from the DRG payment before realizing his own income, this could create even more serious risk; if the payments were apportioned pro rata, the risk would continue to be substantial and program administration would be more cumbersome. This problem of small volume for individual physicians suggests that the system would work better if risk were pooled over a large number of patients, such as all patients admitted to a hospital, although it might be possible to dilute the risk, as suggested above. A large risk pool is used to make hospital PPS workable.

(3) While many physicians practice in groups or enter into formal practice arrangements with hospitals, there is a wide variety of arrangements. Physician staffs or many hospitals are organized along service or specialty lines for purposes of administering patient care, but physicians usually are autonomous when it comes to financial arrangements. Many physicians do not have the staff and organization to pay other physicians efficiently and many might refuse to participate because of ethical objections to "fee splitting."

These technical arguments against paying the physician for the individual case apply even more strongly to an alternative which was briefly considered—paying the physician a combined sum to cover both hospital costs and physician charges and making the physician responsible for paying the hospital.

b. PAY THE HOSPITAL. Under this model, payment would go to the hospital and the hospital would pay the physicians for services they rendered to patients. This approach would provide a suitable volume for efficient risk pooling and would

put the payment in the hands of an organization with relatively adequate fiscal systems. Paying the hospital would also pool together surgical and nonsurgical patients, taking greatest advantage of the predictive power of the DRG system. However, paying the hospital would raise a question regarding acceptance of assignment.

Accordingly, if payments were made to the hospital, Medicare would be faced with a problem if some hospital medical staff refused assignment. The hospital would collect deductibles and coinsurance — this is the current rule regarding payments for hospital services under PPS. It is conceivable that such a model could depart from the PPS precedent by allowing a supplementary bill by the hospital.

Nevertheless, the strategy of paying the hospital has two serious drawbacks:

(1) Most hospitals have experienced relatively high levels of cooperation with medical staff in responding to PPS, and that cooperation is critical to continuing to meet the challenges of PPS. However, experts with whom HCFA consulted said that large numbers of hospitals could have enough difficulty in establishing payment relationships with attending physicians to compromise the necessary cooperation. A number of experts further argued that many smaller hospitals would have great difficulty negotiating such contracts for the foreseeable future. Paying hospitals could lead to unprecedented pressures for collective bargaining situations between physicians and hospitals which the consultant or mediation industries might have to try to get resolved.

(2) Hospitals would be in the position of paying physicians to admit patients to the hospital and even of paying a premium for especially profitable admissions or assessing a penalty for unprofitable admissions. Because the amount of money involved for the hospital is 2.5 to 5 times the amount involved for the physician (West et al., 1985, p. 50; Burney & Newton unpublished data), the hospital would be in a position to offer the physician amounts which were large compared to the physician's usual expected fees. This could seriously compromise the physician's role as advocate for the patient and might compromise patient care. Although there are a few precedents for medical staff-hospital joint ventures (MeSHs), experience is very limited.

c. APPORTION DRG PAYMENTS TO HOSPITAL DEPARTMENTS ON THE BASIS OF HISTORICAL PAYMENT PATTERNS. This solution would pay organizations more likely to be able to handle the money. However, many of the incentives for efficiency would be vitiated if physicians were frozen into the department-by-department allocation of funds which existed when the system was put in place. In addition, there would be strong departmental temptations to "dump" new or expensive functions onto other departments. These problems would be severe in specialties which are developing new capacities which replace the capacities of other departments (e.g, interventional radiology). Further, departments such as radiology and anesthesiology, which function at the request of other departments, would be helpless to manage their budgets effectively.

d. PAY THE PATIENT. This simple system would essentially convert Part B inpatient coverage to an indemnity system where the beneficiary received a fixed amount whatever the charge for his particular hospitalization. The beneficiary

would then be responsible for paying all physician bills. Although this approach has the virtue of simplicity, it provides no risk pooling and would expose patients to risks even larger than those faced by physicians if the attending physician were paid, since the typical patient, with just one admission, gets no protection at all from averaging. Such a method would seriously undermine the insurance protection of Medicare Part B.

e. PAY THE MEDICAL STAFF. Paying the medical staff is an attractive option, since the risk pool of cases is the same size and has the same diversified composition as that for the hospital. Moreover, the conflicts of interest apparent in paying the hospital would be very much diminished in paying the medical staff because payments to the rest of the medical staff are, on average, about half or less of payments to the attending physician (West et al., 1985, Mitchell et al., 1984b). Because a hospital gets much more money from admission of the average patient than does the attending physician, the hospital could pay the physician significant amounts to change his clinical practice in ways which would profit the hospital; because the remainder of the medical staff gets much less money than does the attending physician, the medical staff would have difficulty in offering the physician comparable incentives to admit patients selectively or make inappropriate changes in clinical practice.

Paying the medical staff appears to be a prudent and feasible solution to the "who-to-pay" problem. Note: You could either pay the medical staff or send checks to physician directly based on the allocaton directions of the staff. There are, however, difficulties:

(1) If the payment went to the medical staff, there would be a serious problem regarding acceptance of assignment. Allowing medical staff members to accept or refuse assignment on a claim-by-claim basis would be impractical if Medicare's relationship were with the staff. Moreover, making a direct payment has always meant that the recipient accepted assignment and making the payment without acceptance of assignment would be a significant step backward at a time when assignment rates are rising. The options for the assignment issue are discussed in detail in the next section.

(2) Every accredited hospital must have an organized medical staff. Medical staffs are not, however, corporations with the same kind of executive direction as hospitals. Few medical staffs have ever faced a task comparable to distributing their members' earnings, and those with whom HCFA consulted doubted that all staffs could do so in the short term. Even in large university hospitals with staff practice plans, the vast majority of plans are organized on departmental lines and dividing funds between departments would pose problems for which the plans have no experience. If implementation were rapid, some transitional solution would be useful for some medical staffs while they developed the capacity to handle Medicare payments.

(3) If the medical staff received payment for care, the medical staff might share collective responsibility for malpractice committed by any member. Although this problem could be managed in a number of ways, the policy issues are subtle and resolution might require legislative authority.

f. THE "SURGERY-ONLY" OPTION. Confining DRG-based physician payment to surgical cases might seem reasonable, given the much better explanatory power of DRGs for surgical than nonsurgical cases. However, this option is not particularly attractive for two reasons:

--Although the DRG system has greater descriptive power for surgical cases, surgery is the area in which the volume/intensity controls of PPSP are least needed. This is so because so much of surgical charges are attributable to the surgeon's fee and the anesthesia charge; the surgical fee is usually a comprehensive fee already and there is rarely more than one anesthesia charge per admission. Thus, the issue for surgical cases is primarily control of charge per service rather than control of the volume or intensity of service.

--The surgery-only option requires all the administrative and organizational arrangements of PPSP while covering less than half of cases.

g. SPECIAL PROCEDURE PACKAGES. Special procedure packages were discussed in detail in the last chapter. Although they are closely allied to physician DRGs and PPSP, they were discussed in the fee schedule chapter because they also relate closely to coding and to the issue of unbundling. Because special procedure packages would be applicable to both inpatient and outpatient activities but would not cover all inpatient services in any specialty, they are quite different from other options discussed in this chapter.

h. A SUMMARY OF "WHO-TO-PAY". The conclusion of this analysis of the "who-to-pay" problem is therefore that the most expedient solution for Medicare is

to pay the medical staff. Section 2 of this chapter describes the alternatives which were explored in considering how to pay the medical staff. Some medical staffs might either have difficulty in organizing to receive physician DRG payments or might be reluctant to do so. Accordingly, section 3 describes transitional arrangements which might be useful before medical staffs adopt the primary model.

B-2. HOW TO PAY THE MEDICAL STAFF. This section describes using DRGs to pay the medical staff. The system described in this section is the "Primary" system--that is, the system which Medicare would seek to have adopted for all hospitals, in contrast to the "transitional" system described in the next section.

a. BASIC DESIGN. The fundamental conception of PPSP payment to the medical staff is simple:

--After each discharge a payment would be made to the medical staff of the hospital from which the beneficiary was discharged. This payment would be based on the DRG in which the patient's stay was classified and would be Medicare's share of the charge for all physician services rendered during the hospital stay.

--The Medicare carrier would issue to the beneficiary and the medical staff an Explanation of Medicare Benefits which would define the copayment and deductible for which the beneficiary would be liable. The medical staff would bill the beneficiary for this amount just as a physician would bill the patient for copayment and deductible on an assigned bill.

--The medical staff would determine the distribution of payments among its members in a way it found suitable, whether this included productivity bonuses, pro rata payment of bills, or contractual arrangements.

The remainder of this section begins with discussion of three controversial issues in this model--assignment, phase-in, and coinsurance. The more mechanical problems of price setting, updating, outlier payments, and related issues are discussed later in this section.

b. ASSIGNMENT. The critical question regarding assignment is the extent to which either the whole medical staff or individual physicians would be free to bill beneficiaries for amounts above those approved by Medicare for the DRG. Some medical staffs might decline to take part in an arrangement which required that all members agree to not bill supplementary charges. This is likely to vary geographically according to how high assignment rates are in the region and how much competition there is between hospitals for patients. In areas where assignment rates are already moderately high and in areas where competition for patients is intense, hospitals and medical staffs may find it competitively attractive to be able to advertise that they accept full assignment for inpatient services.

There are at least five possible approaches to the assignment problem if the payment goes to the medical staff:

(1) Staff Participation. In this option, the medical staff could only receive payment directly if all members agreed to accept the payment to the staff as payment in full. Thus, the staff as an entity would be like a Medicare

Participating Physician even though individual physicians would be free to remain nonparticipating physicians outside of the hospitals. Beneficiaries would still be liable for coinsurance and deductibles, but there would be no liability from unassigned claims which exceeded the approved charge for the DRG. Advantages and disadvantages of mandatory assignment for inpatient services are discussed in Chapter 5.

(2) Balance Billing by the Medical Staff. Under this option, the medical staff would be allowed to bill the beneficiary for an amount above the amount approved by Medicare, but individual physicians would not be allowed to do so. This option would be supportive of the medical staff's authority to determine distribution of payments among its members, since it would prevent a physician from billing a beneficiary if he felt he was not getting a fair share from the medical staff.

(3) Pre-Agreed Supplementary Billing by the Medical Staff. Under this option, the medical staff would be allowed to bill the beneficiary for a supplementary amount which was agreed upon in writing in advance of admission. This approach would protect the beneficiary from unexpected catastrophic liability while preserving freedom of beneficiary and physicians to agree upon a mutually acceptable charge. Obviously this approach presents problems for emergency admissions. Although it would also present problems for the mentally incompetent, guardians must generally be found to give consent for such patients.

(4) Balance Billing by Any NonParticipating Physician. Under this option, any physician who was not a Medicare Participating Physician would be allowed to bill any or all patients above the amount approved by Medicare for the DRG. This approach would preserve the present freedom of physicians and patients to agree on payments but would create significant problems in billing:

--Since Medicare's payment would go to the medical staff collectively, it would be impossible for Medicare or the patient to determine how much the physician had received from the medical staff and hence to determine what the physician's total bill (medical staff payment plus charge to the patient) would be.

—This billing method would breach the present rule that a physician or group of physicians who receive a payment directly from Medicare may not bill the patient for amounts other than deductible and coinsurance.

(5) Pre-Agreed Supplementary Billing by Any NonParticipating Physician. This would follow the lines suggested above for pre-agreed billing by the medical staff. Clearly, it would be much easier for attending physicians to obtain such agreement and very difficult for radiologists, pathologists, and others who may never see the patient. This approach is discussed further in Chapter 5, Section 7.c.

(6) Other Assignment Issues in Paying the Medical Staff: Any model which permits the medical staff or others to accept Medicare's DRG-based payment and then bill beneficiaries for a balance amount carries a risk of substantially

increasing beneficiary liability. This would happen if medical staff simply accepted Medicare's DRG-based payment as payment in full when total approved charges were less than the DRG-based approved amount and billed the beneficiary if total approved charges exceeded the DRG-based approved amount. This is a risk in any system based on an average payment. The immediate increase in beneficiary liability could be 15 to 20 percent (this calculation assumes that physician charges per case for an average DRG are distributed log normally and that the coefficient of variation is 0.71 as reported by Mitchell in unpublished work). This is a particular problem because the increased billing would fall especially on those with above-average charges. However, OBRA-1986 established maximum allowable actual charge system which limits future growth in nonparticipating physician actual charges until fiscal year 1989. In addition, OBRA-1986 establishes a limitation on physician actual charges for procedures where there has been a reduction in the prevailing charge level under inherent reasonableness. An OBRA-type limit based on a percentage of the DRG payment amount could provide beneficiary protection.

Decisions regarding assignment under this option require balancing two issues. On one hand, restricting acceptance of assignment to medical staffs all of whose members accepted assignment might greatly reduce the number of medical staffs willing to accept assignment; on the other, allowing balance billing by some members of a group of physicians which were paid directly by Medicare might undercut the effort to increase assignment rates and protect beneficiaries. Not only are these arguments weighty and difficult in themselves, but their importance is amplified by uncertainty as to how they would be perceived by beneficiaries and physicians.

c. USING CARRIERS TO DISTRIBUTE PAYMENTS TO THE MEDICAL STAFF. Carriers and entities experienced in claims processing could help the medical staff make the transition to the primary PPSP arrangement by handling funds on behalf of and at the direction of the medical staff. Carriers could distribute funds to medical staff members using any of the mechanisms described in Section B-3 or others which the medical staff requested. Because this distribution would not involve beneficiaries, it could be done with greater efficiency and without the limitations described in B-3.

d. COINSURANCE. For the simplest solution to coinsurance would be to define coinsurance as 20 percent of the approved payment for the DRG after payment of deductible. If coinsurance were defined as 20 percent of each approved charge, it would be necessary to submit each physician bill to the carrier to determine the approved charge before coinsurance could be determined. Another option would be to increase the premium to make up for lost coinsurance amounts. This would spread the risk across all DRGs. Section B-7 considers this issue from the beneficiary perspective.

e. ANTITRUST ISSUES. To permit a medical staff enough control over its members to produce the economies which are the intent of this legislation, it may be necessary to clarify possible antitrust issues. Although courts have held that a medical staff may restrict membership if doing so has a legitimate relationship to quality of care or efficiency, it is less clear whether restrictions of this kind would be found to serve efficiency or restrict competition. Statutory clarification of this ambiguity may be appropriate.

f. SUMMARY OF PROBLEMS IN PAYING THE MEDICAL STAFF. It is clear that making payments directly to the medical staff or on the basis of overall medical staff performance could involve systems which are untried and whose workability is unproven. Further research on these issues would be enlightening. The present arrangements generally do not typically involve medical staff organizational entities in the administration of staff member compensation for services provided to patients by the staff member or by other staff members. But, paying pre-determined amounts to medical staff has been successfully used by some HMOs and other alternative health plans.

B-3. HOW TO PAY UNDER "TRANSITIONAL" MODELS. This section describes options for a transitional system for medical staffs which are unable or reluctant to directly receive payment when the PPSP system described above was implemented. This section lays out several alternatives under which individual physicians would retain the right not to accept assignment while risk would remain pooled at the medical staff level. These models share the common feature that they are much more complex, cumbersome, and expensive to administer than the primary model.

The central concept in each of these options is making a pro-rated payment of each bill from each individual physician in such a way that total payments would correspond to the total approved payment determined using physician DRGs. All of the options under this section assume that the physician will be free to refuse assignment. Under all of these options, however, risk is still pooled at the medical

staff level although payment is made directly to the physician or the beneficiary.

Many features of a transitional system would be distinctly similar to a system in which payment was made directly to the medical staff. The calculation of DRG weights and standardized payment amounts, update procedures, and outlier adjustments would be the same. On the other hand, the problems of assembling and coordinating data to make an accurate pro-rated payment are exceedingly difficult. In order to explain these problems clearly, it is useful to start with a system in which all data are assembled before any payments are made (the "all data in" model). Next, this section describes a system in which the medical staff is treated as an Independent Practice Association (IPA), and payments are pro-rated on an estimated basis, with a portion of payments held in reserve to correct for inaccuracies. Finally, it is useful to consider a system which does not make exact payments but makes estimated payments final.

a. DELAYING PAYMENT UNTIL ALL BILLS ARE IN. Under this option, the carrier would gather all physician bills and hospital bills pertaining to discharges during a month before any payments were made. Using the Part A bill, the carrier would assign a DRG to the discharge and determine the Medicare approved payment for the discharge. The Part B bills would then be linked to the Part A bill, and the Medicare approved payment would be distributed among the submitted claims in a pro rata fashion, proportional to the amount of each individual claim which was

approved. This relatively simple model requires some departures from current practice and would be administratively complex and require very substantial delays in paying bills.

b. PAYING ON A ROLLING AVERAGE. Instead of requiring that all claims be in before determining the pro rata payment for each claim, the system could work from a rolling average of pro rata payment rates based on bills which have already been received. Such a model still entails substantial delays between the provision of service and payment of the bills, but it does not break down from minor delays in billings from a few physicians.

c. TREATING THE MEDICAL STAFF AS AN INDEPENDENT PRACTICE ASSOCIATION. Under this option, the carrier would treat the medical staff as if it were an IPA and would treat the DRG-based payments as if they were the IPA's premium income. That is, the carrier would pay bills submitted for services by the medical staff in such a way as to assure that total payments on claims would be equal to total amounts Medicare would have paid to the medical staff if it were on the primary system. The approach is administratively complex to implement, price, and administer.

B-4 "HOW MUCH TO PAY": DETERMINING THE PAYMENT AMOUNT. HCFA must determine a approved payment for physician inpatient services for each DRG. As with Medicare's approved charges for other physician services, beneficiaries would pay both a deductible and coinsurance. Whether they would also pay amounts above the approved charge would depend on whether assignment was accepted.

There are two parts to determining the payment amount--the initial determination and the mechanism of making updates.

a. DETERMINING THE PAYMENT AMOUNT. As in PPS, the payment amount would be determined by multiplying a Standard Payment Amount by a DRG-specific payment weight. The weight is a relative value for the DRG and the set of weights for the 468 payable DRGs (two DRGs are essentially error codes and are not payable) is a kind of RVS. Just as the value for each procedure in a RVS determines the relative payment which will be made for that procedure, so the weight for a DRG determines the relative payment which will be made for a hospital stay in that DRG. The standard payment amount corresponds to the conversion factor which translates a weight into a dollar payment.

(1) The DRG Weight. Physician DRG weights might be constructed by taking a fraction of the hospital DRG payment. However, as noted in the first part of this chapter, the correlation between hospital payment and physician payment for a DRG is too weak to use this method (Mitchell et al., 1985 p 7, West et al., 1985, Tables A.3.1.3 and A.3.1.4). Accordingly, the individual DRG weights, or relative values, for physician payment must be determined in a manner analogous to that used in determining DRG weights for hospital PPS. The methodology is closely parallel as well to that described by Pettengill and Vertrees (1982) in their basic work on hospital prospective payment.

The weight for a DRG is calculated by comparing the total approved physician charges associated with the DRG in a national sample of cases with the total approved physician charges associated with the average hospital discharge in the same sample.

(2) The Total Payment Amount. The total amount to be paid could either be determined to conform to established budget levels, as in PPS, or be set at some other predetermined level. The expenditures for the previous year would be adjusted to reflect both inflation and changes in technology and this would become the expenditure target for the year. This target assumes that the total volume of admissions remains predictable and controllable, which is the same assumption made in PPS.

(3) The Standardized Payment Amount. The standardized payment would also be determined in a manner analogous to the method used to determine the standardized payment under PPS. This method may be briefly summarized as setting aside a fixed amount (5 percent to 6 percent under PPS) of the total payment amount for outliers and then calculating the standardized payment to distribute all funds remaining.

--In PPS, the system was phased in by a progressive blend of each hospital's historical rate with regional and national rates. A similar approach might be used under PPSP. During this period a hospital-specific payment rate based on

the hospital's historical standardized payment amount would be progressively blended with a regional and then a national standardized payment amount. Table 3.22 shows the way in which this blend was made for PPS. HCFA does not currently collect a large enough volume of data to permit calculation of hospital-specific rates. Accordingly, it might be simpler to blend national and regional DRG-based amounts with actual approved charges rather than with historical rates.

--PPS set a precedent for adjusting standard payment amounts to reflect urban/rural location and local wage costs. In discussing fee schedules and RVS, Section 6.b of Chapter 2 reviewed arguments for and against adjusting Medicare physician payments to reflect local costs. The same arguments would apply to a decision on using local costs for standard payment amounts under PPSP.

--Departure from PPS precedents seems reasonable with regard to omitting teaching adjustments, since there is no current evidence that teaching status is consistently related to total approved physician charges.

(4) Outliers. Cases with unusually high charges--outliers--would also be handled in a manner analogous to PPS. However, there would be no "day outliers," that is for cases which are unusual in length of stay but not in total approved physician charges; instead, outliers would be entirely determined on the basis of

having approved charges for services which exceeded a threshold. The threshold would be determined for each DRG on a statistical basis so that a certain percentage of cases in each DRG would be treated as outliers and so that the entire payment for outliers would be equal to the 5 to 6 percent set aside earlier.

Specifically, cases determined to be outliers because of having total approved charges above the trim point would probably be paid for by adding a payment equal to, for example, 60 percent of the approved charges above the trim point to the DRG-specific payment, in a manner precisely analogous to the way in which "cost outliers" are handled under PPS. Further research on the relation of fixed to variable costs for these services might modify the 60 percent figure.

In order to handle outliers as well as to make possible reweighting of the DRGs in future years, it would be necessary for medical staffs to maintain records of services provided to patients using HCPCS; physicians must currently create such records in order to submit bills. Submitting them would be less burdensome for the medical staff as an organization because all PPSP records could be handled centrally and submitted to the Medicare carrier in machine-readable form. Since these records would also be likely to be used by the medical staff for its internal management, they would pose little burden.

b. UPDATES. As in PPS, this payment system could be updated on a regular basis in two ways:

(1) Update of Payment Rates. The update of standard payment amounts would be based on an inflation adjustment such as the MEI and perhaps an appropriate additional adjustment for technology.

It is conceivable that the payment amounts could also be adjusted for changes in the number of admissions and case mix; this adjustment would be analogous to the adjustment of a conversion factor to control for volume and complexity increases with a RVS.

(2) Recalibration. Recalibration would involve recalculation of the relative approved payments or weights for each DRG. This would be based on the Medicare's national experience. If Medicare adopted a RVS this rather than actual dollar charges could be used for reweighting by applying the RVS weights to the services billed, resulting in a total weight for each case instead of a total approved charge expressed in dollars.

B-5. INCENTIVES AND CONTROLS UNDER PPSP. Applying DRGs to physician payment provides incentives to physicians to care for patients efficiently, since a fixed payment of Medicare is shared in a pro rata fashion. Nevertheless, the pool over which risk is shared, the medical staff, is large enough in many hospitals to

dilute these incentives. There is a risk that physicians will provide as many services as possible because there is insufficient coordination to follow a mutually profitable strategy of efficiency (the "tragedy of the commons" discussed in the last chapter). These risks are less, however, when payment is made directly to the medical staff than when payment is made to individual physicians and beneficiaries:

—A single payment to the medical staff. This is a method used by many HMOs and has permitted them to achieve well-recognized savings (Luft 1981), since it gives the executive of the medical staff power through controlling funds which matches the responsibility for promoting efficient practice. Whether the medical staff chooses to accomplish these ends through exhortation, paying bonuses, or being selective about membership, the power to encourage and enforce efficiency is clearly present. However, these incentives are diminished to the extent that individual practitioners are free to refuse assignment, since they can pass along the consequences of medical staff inefficiency to patients by refusing assignment and billing more than Medicare would allow.

—In the transitional system, the medical staff does not receive the money, which goes directly to patients and physicians. There is little added authority for the executive of the medical staff, and data on actual efficiency will be somewhat late in appearing because of the time necessary to merge Part A and B records at the carrier. Although the staff will have incentives for efficiency comparable to those under payment to the staff, the risk of a tragedy of the

commons is much higher. Whether the majority of medical staffs will have the will and the competence to organize to manage this problem is uncertain; there is some data from group practices and other economic research to suggest that they will not (Pauly & Langwell 1985). It is clear that medical staffs can respond to incentives--the striking fall in length of stay under PPS is evidence--but it is not clear how they might respond to the kind of incentives which PPSP would create.

Thus, appropriate responses are clearly possible and are encouraged by the system. Although some medical staffs might ignore the incentives, Medicare would still realize savings through the payment target. It is reasonable for a Medicare payment system to allow diversity of response; the goal is to assure that efficiency is rewarded, not to force a lockstep response.

a. PROBLEMS WITH A SMALLER RISK POOL. PPSP incentives would be even stronger, and the likelihood that the incentives would result in more efficient practice would be even higher, if the payment were made to a small group of physicians, but a small group would have three disadvantages:

(1) Protection against the risk of chance variation in patient illness would be significantly diminished.

(2) As earlier discussion has indicated, the DRG system is not technically adequate for paying all specialties fairly when they are not pooled at the hospital level. This applies to the small group as well as to the individual physician.

(3) Such smaller groups do not, in general, exist. By contrast, every accredited hospital has an organized medical staff and all physicians providing care in the hospital are members of the medical staff.

b. ADVANTAGES OF STAFF LEVEL POOLING—QUALITY OF CARE. There are three reasons why pooling risk at the medical staff level may be good for quality of care.

(1) Medical staffs are organized to review quality of care and utilization of services. The two functions are often linked.

(2) Because the risk pool is larger, immediate pressure on individual physicians is lower, and there is less risk that a few physicians will respond to fear of loss or to hope of gain by omitting medically necessary services.

(3) Because the medical staff is a larger group, questionable practices cannot easily be put into general effect without semi-public examination, which reduces the risk of concerted actions to make inappropriate reductions in services to patients.

c. RISKS OF CREATING INCENTIVES—QUALITY OF CARE. Although pooling risk at the medical staff level has protective effects for quality of care, quality of care is a natural concern whenever efforts are made to contain the rate of cost increases or create incentives for efficient practice. Such risks might include inappropriately inexpensive therapies, inappropriately early discharges, and failure to secure appropriate consultation. Perhaps the largest natural experiments on this

question are HMOs and other capitated forms of health care delivery. There is, despite years of criticism of these delivery systems, no credible evidence that the quality of care in these non-fee-for-service systems is inferior to that in the fee-for-service sectors, though strong evidence has been established that costs are lower and overall volume of inpatient services is reduced (Luft 1981).

d. RISKS OF CREATING INCENTIVES—GAMING THE SYSTEM. There is also risk that the hospital and the medical staff will collaborate in "gaming" the system. Such gaming can take a number of forms including:

—changing the description of diagnoses and procedures to secure higher approved payments,

—securing the admission of patients who will require less resources than average ("skimming") and referring elsewhere patients expected to use more than average resources ("dumping"),

—moving procedures from the period of inpatient care to just before or just after admission (unbundling) in order to secure payment both as part of the DRG-based approved charge and as under fee-for-service,

—splitting admissions by performing services in two admissions rather than one so that total payments will be higher for comparable services, and

--increasing the total number of admissions by admitting patients who might be managed as outpatients.

It is clear that, to the extent that the incentives to the medical staff coincide with the incentives to the hospital, as they will if both have their payments determined by a DRG system, there will be greater likelihood of gaming the system. Nevertheless, it is important to recognize that Medicare is already at risk for this kind of gaming. The system of PROs, which replaced the Professional Standards Review Organization system, is specifically aimed at such abuses as excessive admissions, admission splitting, skimming, and inappropriately early discharges.

e. RISKS OF CREATING INCENTIVES—CHARGE-SHIFTING AND SERVICE WINDOWS. The risk of shifting charges to other sites of service is substantially attenuated by risk pooling at the medical staff level. If the medical staff distributes payments to physicians on a fee-for-service basis, or if payment is made directly to the physician under a transitional system, the individual physician does not benefit significantly, and may even lose, by billing for a service as an outpatient rather than an inpatient activity. It is also uncertain that such charge-shifting is undesirable in the long run. Though it may lead to greater short-term payments, it also reduces the extent to which procedures are performed in the more costly inpatient setting. When payments are recalibrated on the basis of actual charges under PPSP, any savings should return to Medicare.

Thus, it is not clear that charge-shifting is a significant problem. One area in which such shifting could become a problem under any charge restraints is by surgeons

unbundling follow-up visits from their surgical charge. Carriers vary in the extent to which they screen for and reject claims resulting from such unbundling; increasing the uniformity of Medicare practice in this area should not be difficult if charge-shifting proves to be an issue.

Another approach to shifting would be to increase the DRG payment slightly and include within the definition of inpatient services those services provided during a "window" extending from before admission to after discharge. A window is clinically reasonable, but it would put the medical staff at risk for use of services by physicians who were not members of the staff and not within its control (this problem might be met by allowing billing within the window by physicians not on the hospital medical staff). Such a window would also create significant administrative complexities, such as determining in a timely way whether a noninpatient service had been rendered during a window. Most important, a window would be of very uncertain benefit to Medicare. Further research would be needed if a rational choice were to be made on this question.

f. RISKS OF CREATING INCENTIVES—SHIFTING ADMISSIONS. Finally, PPSP does create an incentive which is not found in PPS and is both potentially valuable and potentially troublesome: if physicians find that their income is limited by the overall efficiency of the medical staff to which they belong, they may experience an incentive to admit their patients to a second hospital with a more efficient medical staff rather than to work to improve efficiency of the first medical staff. This response would be especially easy for physicians with privileges at more than one hospital—a common situation in urban areas. Although the decision to admit

patients to another hospital is an important way for a physician to express dissatisfaction and encourage change, massive and rapid shifts would not be in the interest of hospital efficiency. This is one argument for a relatively long phase-in period, during which payment rates would be close to historic levels and the incentives to move to another hospital would be attenuated.

g. RISKS OF CREATING INCENTIVES—REFUSING ASSIGNMENT. If a transitional system allows physicians to refuse assignment while payment to the medical staff requires them to accept assignment, medical staffs may be very slow to accept direct payment. As noted above, a physician who is free to refuse assignment may choose to do so if Medicare reduces its payments. This risk exists whether the reduction results from excessive use of services by the individual physician or by the medical staff. Thus it is possible that a vigorous PPSP program could reverse the current trend toward growing acceptance of Medicare assignment. This risk is discussed in Section B-7.b and in Chapter 5.

B-6. EXPERIENCE WHICH SHEDS LIGHT ON THE IMPACT OF PPSP. Some observers have seen PPSP as a radically new program which would require demonstrations and careful analyses of the demonstrations before implementation. There is, however, some pertinent experience which sheds light on how PPSP might work out in practice.

a. PER CASE PAYMENT. Per case payment for individual physicians is well established. Most surgeons and obstetricians have always been paid on a per case basis. This practice has already been identified as one of the reasons why DRGs

explain surgical case charges so well. There is little evidence, either anecdotal or published, that this practice has led to diminution in quality of care or other substantial problems.

There is only one documented experiment which has paid individual physicians on a per case basis. The study was conducted by Blue Shield of Pennsylvania (Markel 1980) and involved a modest number of physicians and a modest number of conditions. The experiment operated successfully, and there were some overall cost savings. The only costs in the experiment, however, were the charges of attending physicians, so there was no opportunity to realize savings by improved ordering practices. The Veterans Administration now funds its hospitals, including physician costs, on a DRG-based system, but this method offers little guidance to the fee-for-service sector.

b. PAYING MEDICAL STAFF ORGANIZATIONS. The most important precedents in distributing payments among medical staff organizations comes from teaching hospitals of medical schools where faculty practice plans are extremely common. Other experience can be found in the operation of staff and nonstaff model HMOs (Wallack & Donovan 1985). The lessons from these two groups of precedents would appear to be that there are almost as many ways of solving the problem as can be imagined, that funds can be distributed efficiently and without impairing medical practice, and that the requirement of distributing a payment would not require a medical staff to adopt any single form of organization.

c. ADJUSTING PAYMENTS TO INDIVIDUAL PHYSICIANS TO MEET GROUP SPENDING TARGETS. An important set of precedents for the transitional model comes from experience in controlling payments in order to achieve a target budget. As discussed above IPAs provide precedent for such controls in the United States; they commonly use the kind of reserve pool described in Section B-3.c.

Other precedents can be found in Quebec, West Germany, and other countries. These countries index fee schedules or RVS conversion factors in a way which is rather similar to the use of the payment ratio described in Section B-3.

PPSP differs from the foreign programs in that it:

—applies only to inpatient care,

—uses a distinctively American mechanism--DRGs--to apply the limits more equitably than the undifferentiated foreign systems,

—pools risk in hospital medical staffs, which are small enough to review their utilization effectively, and

—provides feedback somewhat more quickly.

B-7. BENEFICIARY IMPACT AND ASSIGNMENT ISSUES. The impact of PPSP on beneficiaries will depend on how coinsurance and assignment are handled:

a. COINSURANCE. If the coinsurance is determined from the standard DRG payment, the beneficiary will receive substantial protection from catastrophic liability. Mitchell et al. (1985) has studied the impact of determining coinsurance in

this way. In some cases the beneficiary would pay more than under a non-DRG system, in others less (Table 3.23). The overall effect is to average charges across beneficiaries and thus to protect the beneficiary against catastrophic liability.

It is arguable that this protection would vitiate the beneficiary's incentive to control costs, because the coinsurance would no longer reflect actual services. It is likewise arguable that making the beneficiary liable for coinsurance on an average approved charge is unfair if the charges to the beneficiary would have been lower than the average. But applying coinsurance to the DRG-payment also has an important advantage: it provides risk pooling to beneficiaries, significantly reducing the risk of catastrophic liability. Such a step would significantly improve the insurance protection provided by the Part B system, particularly the potential for catastrophic coinsurance liability. However, it would be important to explain this insurance effect to beneficiaries so that they would understand why, in some cases, they were paying a higher coinsurance than would otherwise be the case.

b. ASSIGNMENT. Acceptance of assignment protects beneficiaries from two kinds of hazards:

—They would no longer be liable for the portion of the physician's charge which is greater than Medicare's approved charge. This would reduce existing beneficiary liability.

—In theory physicians may be able to respond to any decrease in payments from Medicare by not accepting assignment and billing beneficiaries for the payment the physician would like to receive. A variety of pressures are increasing

acceptance of assignment, including the MPP system and the growing competition among physicians for patients. This suggests, but provides no proof, that physicians may not be able to transfer burdens to beneficiaries.

Chapter 5 explains the reason for the opposition to mandatory assignments.

Section B-2.b has described the significantly increased beneficiary liability which could result if hospitals or medical staffs paid on a case-by-case basis were allowed to accept or refuse assignment on a case-by case basis. To a lesser extent this would also apply to an all-or-none rule under which a hospital or medical staff decided whether to accept or not accept assignment on all cases. Groups with average charges below the DRG-based average payment could accept assignment and increase their receipts; groups with average charges above the DRG-based average payment could not accept assignment and collect their charges. Market forces might attenuate this risk, but beneficiary liability could be increased by 10 to 20 percent (this estimate assumes that physician charges per case for a typical DRG, averaged at the medical staff level, are normally distributed with a coefficient of variation of 0.39 as reported by Mitchell in unpublished work).

CHAPTER THREE — PART C

THE ADVISABILITY OF PPSP

The preceding discussion has shown that DRGs explain approved physician charges per hospital stay quite well at the hospital level and that it is feasible to create a payment system for physician inpatient services based on DRGs. This part of Chapter 3 considers the advisability of implementing PPSP.

C-1. BUDGETARY IMPACT. PPSP permits Medicare to determine its total outlays for inpatient physician services fairly precisely if the number of admissions remains constant. The budgetary impact of PPSP, therefore, depends on the rate of increase in physician payments per admission which Medicare decides to allow. In order to project the maximum impact which PPSP might have, this section assumes a freeze on payments per admission. PPSP would not require a freeze, but calculations were based on the assumption that PPSP would not be more stringent than a freeze.

To project the impact of PPSP on Part B outlays, it is reasonable to make the following assumptions:

—Increase in volume/intensity of physician services will grow 4.0 percent (Board of Trustees 1985, Table A-3), which will be evenly distributed between inpatient and noninpatient.

—The percentage of physician services provided in inpatient settings is 55 percent and will continue to decline 2 percent a year.

—Physician services will remain 78 percent of total part B payments.

—The number of admissions per enrollee will remain constant.

—Hospital case mix will increase 1 percent a year.

Although PPSP might in theory reduce growth of inpatient physician services by the full 4.0 percent attributable to annual increases in volume/intensity, 1 percent of that reduction is lost to increase in case mix. A savings of 3.0 percent a year is therefore expected in growth of inpatient physician services, which represent 55 percent of physician services, which represent in turn 78 percent of Part B outlays. For 1986, these assumptions lead to a projection that PPSP would reduce annual growth of Part B outlays by 1.3 percent. If the growth in inpatient volume/intensity is lower, as the data in Chapter 1 suggests has been the case for the last 2 years, the savings will be correspondingly lower. If any of the "gaming" scenarios described in Section B-5 materialize, or if outpatient services simply grow to offset inpatient controls, savings will also be lower. If it is possible to include some hospital outpatient services under PPSP (for example, some kinds of ambulatory surgery), savings might be increased.

The current projection for annual growth in Part B outlays in 1986 is 10.8 percent (Board of Trustees 1985, Tables A6, A7) without PPSP; this projection suggests an increase of about 9.5 percent with PPSP.

Savings are larger if the estimate of 4.0 percent volume/intensity increase proves too low or if allowance is made for inflation. On the other hand, the savings would be smaller if the 4.0 percent estimate is too high. In the extreme case, if volume/intensity is currently decreasing (a possible interpretation of current data), PPSP could actually increase Medicare costs by maintaining a constant payment for each admission.

C-2. THE NEED FOR WHAT PPSP CAN ACCOMPLISH. The critical questions are whether there is an urgent need for what PPSP can accomplish, whether simpler

strategies can accomplish some or most of what PPSP can do, and whether PPSP could have unintended effects which would offset its savings.

a. CONTAINING INPATIENT CHARGES. PPSP is intended to contain increases in inpatient charges. It may be useful as well for certain outpatient surgery, but it is not useful in containing the majority of noninpatient charges. If inpatient costs are not currently rising, or if approved charges per admission is actually falling, then a system which paid for physician services by the admission might actually provide income protection for physicians rather than savings for beneficiaries and Medicare. The apparent drop in growth of inpatient expenditures suggests, though it is not precise enough to prove, that current volume is not rising as fast as inflation, even though the rise might resume at any time. Outpatient hospital services and office services appear to be the centers of growth (Table 1.7).

b. IS BUNDLING THE BEST TOOL TO DEAL WITH THE CHARGES FOR INPATIENT SERVICES? Bundling was developed as a tool for hospital cost control. There are significant differences between the problems of containing physician charges and hospital costs:

--The size and complexity of the hospital service package is so much greater than that of the physician package as to make the problem qualitatively different. Furthermore, hospital costs are largely determined by the price which a hospital must pay for the services it uses; there is little margin for profit. By contrast, the majority of most physician prices is the physician's personal income and the physician has considerable control over the price which he can accept while remaining solvent. Therefore, while it would be very

difficult for Medicare to control hospital costs by controlling payments for individual items, Medicare could control a large part of inpatient physician charges by controlling or capping the payment for individual procedures.

—When Medicare set the amount it would pay for hospital services, it forced the hospital to respond by becoming more efficient.

There are three important alternatives to relying on PPSP to control growth of inpatient charges:

(1) Control Payment for Individual Procedures. Table 3.24 shows how approved charges for physician inpatient services break down by category of service. Surgeons and anesthesiologists account for 51.3 percent of physician inpatient charges. Typically, only one surgery with anesthesiology is performed per admission, and charges primarily reflect the kind of surgery performed, which also controls the DRG payment. PPSP incentives for control of volume/intensity of service per admission can, therefore, make little overall contribution to cost control for surgical services, except perhaps for non-surgeon visits or unneeded tests. The most direct way to control growth in these payments is to control or cap the payment which Medicare makes for the individual service or to prevent the hospital admissions through PRO activity. The most expensive surgical services are among the leading candidates for the repricing strategies described in the last chapter.

PPSP is a form of packaging services and is primarily useful for controlling the effects of increasing volume/intensity of services. PPSP accomplishes less

with regard to price of individual services. Similar effects upon price, but not upon volumes, can be achieved through the use of fee schedules or RVS and suitable multipliers. To the extent that physicians could transfer the burden of reduced Medicare payments to patients by refusing assignment, they can do so under either a fee schedule or PPSP; PPSP does not resolve this issue. Conversely, if physicians will accept lower Medicare payments for surgical and anesthesia services there would be little additional benefit from PPSP in this area.

(2) Control Volume/Intensity Through Hospital PPS. Many commentators assumed when PPS was passed that a complementary physician program would be necessary to bring physician incentives into alignment with hospital incentives. However, data cited in Chapter 2 suggest not only that physicians have altered their use of hospital services but also that PPS is causing substantial changes in physician practices. The critical question is whether additional incentives are needed to control growth in volume of inpatient services. Table 3.24 also shows two areas in which PPS provides incentives to control volume of services:

—31.6 percent of charges for inpatient services go for medical services. PPSP would create further incentives for volume control, but PPS is already putting pressure on length of stay and use of intensive care units, which are significant components of medical service charges.

—9.6 percent of charges come from pathology and radiology. Since the costs of technicians, equipment, and materials for these services are paid by the

hospital and eventually by Part A, hospital PPS gives the hospital incentives to contain the volume and intensity of pathology tests and radiology services. This hospital incentive is especially important because pathology and radiology services are generally ordered by other physicians so that there is limited risk of the pathologists and radiologists generating orders for their own services.

(3) Control Volume/Intensity through More Precise Definitions of Covered Services.

—4.4 percent of charges are for consultations. Although some consultations are central to the provision of good care, others are either provided by non-specialists who essentially provide concurrent care or are mislabeled as consultations. Since this problem exists as well for ambulatory services, solutions will be developed whether or not Medicare adopts PPSP.

—2.8 percent of charges are for assistance at surgery. Previous data in this chapter have indicated potential for savings in this area; however, it would appear to be possible to achieve some savings simply by defining administratively a list of surgeries for which clinical justification would be required before charges for surgical assistance would be paid. To take the example of cataract, it would be difficult to develop an appropriate physician payment for cataract surgery unless it were possible to decide whether surgical assistance should be paid; once that decision is made, PPSP is not necessary in order to deny payment for assistance if a decision is made against coverage.

In summary, there are few areas in which PPSP could be expected to achieve more than simpler approaches. In projecting savings in section C-1, an assumption was made that PPSP could achieve a 3.0 percent savings in volume/intensity which could not be achieved in other ways. In fact, the discussion above suggests that much of this saving can be achieved in other ways.

Thus, the need for a system as comprehensive as PPSP is not yet certain. A variety of simpler approaches invite attention, depending on goals. One example of a simpler approach is CPR refinement, fee schedules, or RVS another approach would be some of the refined definitions of benefits for such services as consultation and assistance at surgery; another approach would be PPSP for traditional hospital-based physician services, (radiology, anesthesiology, and pathology).

c. UNINTENDED EFFECTS WHICH COULD OFFSET PPSP SAVINGS. Because Part A costs are 2.5 to 5 times Part B costs for a hospital stay, a program which changes physician behavior but generates relatively modest amounts of undesirable behaviors could save money in Part B while causing such secondary cost increases in Part A as to result in a net loss. This could happen, for example, if the system created incentives to manipulate practice or administrative data in ways described in Section B-5. There is no evidence yet, on either side, as to the risk of such an outcome.

C-3. CONSISTENCY WITH THE CRITERIA FOR A MEDICARE PAYMENT REFORM. PPSP is consistent with most of the objectives of Medicare payment reform.

PPSP would control the inpatient portion and perhaps the surgical outpatient portion of Medicare expenditure growth, and there is no reason to believe PPSP would limit access to quality care. Whether or not mandatory assignment was included, Medicare would become a more prudent purchaser for its own costs. If PPSP did not somewhat restrict the right to bill patients directly, it might risk increases in beneficiary liability.

PPSP would provide incentives for efficiency and would promote deregulation and decentralization of decisions affecting clinical care. Evidence from statistical analyses suggests that the DRG system matches present patterns of physician behavior even more closely than patterns of hospital behavior, which suggests overall clinical reasonableness but data on nonsurgical admissions require that this claim be significantly qualified; certainly the idea of payment by the case is as clinically reasonable for physicians as for hospitals. Although PPSP could be adopted by Blue Cross/Blue Shield plans, and perhaps by others, it does not match current directions on nongovernmental plans and does not synergize with them.

It is difficult to predict whether PPSP might cause disruption since incentives, like the incentives of hospital PPS, would be likely to produce important behavioral and organizational change.

PPSP interacts strongly with an option discussed in Chapter 5—mandatory assignment for inpatient services. Without definite limits on balance billing or mandatory assignment, PPSP may be workable, but the incentives and impact on beneficiaries are uncertain.

Despite its potential advantages, PPSP is not simple. Implementing PPSP for all physician services to Medicare inpatients would be a major administrative investment for HCFA and would demand that physicians make considerable efforts simply to understand and adapt to the new system.

C-4 PROSPECTIVE PAYMENT FOR INPATIENT PHYSICIAN RAP SERVICES ONLY

Prospective payment for inpatient physician RAP services only was an option for Medicare identified in the February 1986 Report of the Office of Technology Assessment "Payment for Physician Services"
and in the April 1986 Report of the Congressional Budget Office "Physician Reimbursement for Medicare: Options for Change."

This set of inpatient physician services accounts for about one-tenth of total Medicare physician payments, and between one-fifth and one-sixth of total Medicare physician payments for inpatient care. By and large, these services tend to be distinctive from other physician services to inpatients in that:

- The patient seldom has an opportunity to select the physician who provides the service or to determine his pricing practices, assignment-taking or participation status.

- These services are often provided by using hospital resources (supplies, equipment, space, technical personnel).

- These services, especially in the instances of pathology and radiological tests, are typically provided at the order of the attending physician or surgeon.

- The physician responsibilities and obligations to inpatients receiving these services rarely include followup care; i.e., they generally end with the discharge.

- Privileges to provide these services to a hospital's inpatients usually entails a contractual agreement between physicians and the hospital.

It has been observed that "bundling" payments for all physician services to inpatients could involve more risks than benefits through its potential impacts upon physician incentives and practice patterns and the implications for hospital-physician relationships. On the other hand, bundling inpatient payments could be said to largely restore the pre-Medicare situation with regard to arrangements for in-hospital RAP services. This would strengthen the incentives of the hospital PPS system to reduce unnecessary utilization.

Accordingly, the Administration has begun to develop a legislative proposal that will provide for prospective payment of physician RAP services to inpatients. This proposal will address the administrative issues as well as the issues of providing appropriate incentives for physicians, patients and providers. The proposal will be completed in time for enactment and implementation prior to fiscal year 1989.

C-5 SUMMARY: The first chapter of this report set out three overall goals for physician payment reform: control Medicare outlays, maintain access to quality care, and discourage transfer of burdens to beneficiaries. Given trends observable at this moment, it is not clear how much PPSP could control Medicare outlays, and there is ground for concern that burdens could be transferred to beneficiaries; effects on access to care are uncertain, and administrative feasibility is unproven. Finally, although PPSP appears to support movement to capitation because it involves bundling, PPSP for all physician payments rests on fixed payment rates which do not support competition or consumer choice. A more limited approach, confined to physician inpatient RAP services will be the focus for a legislative proposal that can be enacted and implemented prior to fiscal year 1989.

Table 3.1

Mean allowable costs for hospitals and reasonable charges for physicians for 25 common DRGs: Four states

DRG		1982								1981	
		Michigan		New Jersey		North Carolina		Washington		National	
		Hosp	Phys	Hosp	Phys	Hosp	Phys	Hosp	Phys	Hosp	Phys
14	Specific Cerebrovascular Disease exc TIA	$4333	$674	$3839	$763	$2535	$414	$3398	$555	2943	431
15	Transient Ischemic Attacks	2305	589	1952	575	1379	343	1247	364	1452	334
16	Nonspecific Cerebrovascular Disease w/CC	3543	680	3109	737	—	---	3160	587	1869	328
17	Nonspecific Cerebrovascular Disease w/o CC	2639	590	2138	592	1830	370	1572	368	1826	368
39	Lens Procedures	1626	1828	1218	1842	1100	1293	1208	1584	1090	1462
89	Pneumonia Age 70+ and/or CC	3679	470	3304	604	2322	320	2731	387	2400	308
90	Pneumonia Age 18-69 w/o CC	3300	469	2669	562	2193	310	2180	316	2143	310
115	Perm Pacemaker Implant w/AMI or CHF	11284	2212	9354	2594	8241	1715	9530	1912	8518	2028
116	Perm Pacemaker Implant w/o AMI or CHF	8015	1887	7187	2259	6700	1572	6564	1493	6237	1573
127	Heart Failure & Shock	3255	487	2808	556	2260	340	2187	361	2264	344
132	Atherosclerosis Age 70+ and/or CC	2718	469	2565	541	2021	330	1868	329	1998	304
133	Atherosclerosis Age 70 w/o CC	2418	472	2589	587	1883	314	1640	329	1871	340
140	Angina Pectoris	2305	410	2078	466	1645	276	1531	286	1642	2883
148	Major Bowel Procedures Age 70+ and/or CC	7834	1883	7090	2555	5426	1673	6683	2020	5546	1830
149	Major Bowel Procedures Age 70 w/o CC	7357	1850	5833	2438	4679	1591	5341	1931	4820	1743
182	Gastroenteritis & Misc. Dis Age 70 and/or CC	2163	479	1988	588	1371	330	1438	331	1346	292
183	Gastroenteritis & Misc. Dis Age 18-69 w/o CC	2009	498	1748	573	1261	332	1171	311	1230	298
195	Cholecystectomy w/CDE Age 70+ and/or CC	5571	1604	5445	2200	4479	1493	5549	1764	---	---
196	Cholecystectomy w/CDE Age 70 w/o CC	4541	1468	4498	1980	3360	1430	3266	1644	---	---
197	Cholecystectomy w/o CDE Age 70+ and/or CC	4277	1281	4139	1855	3258	1246	3896	1438	3495	1328
198	Cholecystectomy w/o CDE Age 70 w/o CC	3319	1195	3018	1631	2643	1182	2564	1345	2837	1217
209	Major Joint Procedures	6642	2206	6023	2842	5801	2576	8021	2815	2030	2313
294	Diabetes Age 36+	2663	466	2397	533	1695	302	1929	376	1759	291
336	Transurethral Prostatectomy Age 70+ and/or CC	3115	1307	2767	1679	2165	1219	2032	1349	2193	1255
337	Transurethral Prostatectomy Age 70 w/o CC	2609	1242	2231	1545	1886	1174	1629	1298	1847	1199

NOTES: w/o means without; CC means comorbidity and/or complication; AMI is acute myocardial infarction; CHF is congestive heart failure; CDE is common duct exploration; —means data not available. National average reasonable charges for physicians' services are based on a merge of records for a 5 percent sample of Medicare beneficiaries from both the 1981 Bill Summary Record and MEDPAR data files. Because of data limitations 47% of cases were deleted from the working file from which these numbers are derived.

SOURCE: State data: Mitchell et al 1985, Tables 2.1 and A.1; Medicare Part A and B claims from Michigan, New Jersey, North Carolina and Washington 1982; National data from unpublished work of Barney and Newton, HCFA.

Table 3.2

Comparison of National PPS, and state hospital, and physician DRG cost weights: U.S. and four states

DRG		National PPS	Michigan		New Jersey		North Carolina		Washington	
			Hospital	Physician	Hospital	Physician	Hospital	Physician	Hospital	Physician
14	Specific Cerebrovascular Disease exc TIA	1.353	1.250	0.820	1.262	0.759	1.077	0.664	1.23	0.673
15	Transient Ischemic Attacks	0.667	0.665	0.717	0.641	0.572	0.585	0.550	0.453	0.441
16	Nonspecific Cerebrovascular Disease w/ CC	0.859	1.022	0.828	1.022	0.734	—	—	1.147	0.712
17	Nonspecific Cerebrovascular Disease w/o CC	0.839	0.761	0.719	0.703	0.589	0.777	0.594	0.571	0.444
39	Lens Procedures	0.501	0.469	2.224	0.400	1.833	0.467	2.074	0.438	1.920
89	Pneumonia Age 70+ and/or CC	1.103	1.061	0.572	1.086	0.601	0.986	0.514	0.991	0.469
90	Pneumonia Age 18-69 w/o CC	0.985	0.952	0.571	0.877	0.559	0.931	0.498	0.791	0.383
115	Perm Pacemaker Implant w/AMI or CHF	3.915	3.254	2.693	3.074	2.582	3.499	2.752	3.549	2.318
116	Perm Pacemaker Implant w/o AMI or CHF	2.867	2.312	2.298	2.362	2.248	2.845	2.522	2.382	1.810
127	Heart Failure & Shock	1.041	0.939	0.593	0.923	0.554	0.960	0.545	0.794	0.438
132	Atherosclerosis Age 70+ and/or CC	0.918	0.784	0.572	0.843	0.539	0.858	0.530	0.677	0.399
133	Atherosclerosis Age 70 w/o CC	0.860	0.697	0.575	0.851	0.584	0.800	0.505	0.595	0.399
140	Angina Pectoris	0.755	0.665	0.499	0.683	0.464	0.698	0.443	0.556	0.347
148	Major Bowel Procedures Age 70+ and/or CC	2.549	2.259	2.293	2.330	2.542	2.304	2.685	2.418	2.449
149	Major Bowel Procedures Age 70 w/o CC	2.215	2.122	2.253	1.917	2.426	1.987	2.552	1.939	2.341
182	Gastroenteritis & Misc. Dis Age 70 &/or CC	0.619	0.624	0.583	0.653	0.585	0.582	0.530	0.522	0.401
183	Gastroenteritis & Misc. Dis Age 18-69 w/o CC	0.565	0.579	0.606	0.574	0.570	0.535	0.532	0.425	0.376
195	Cholecystectomy w/CDE Age 70+ &/or CC	2.169	1.607	1.953	1.789	2.189	1.902	2.396	2.014	2.139
196	Cholecystectomy w/CDE Age 70 w/o CC	2.059	1.310	1.787	1.478	1.970	1.427	2.295	1.185	1.993
197	Cholecystectomy w/o CDE Age 70+ &/or CC	1.487	1.233	1.560	1.361	1.846	1.384	2.000	1.414	1.743
198	Cholecystectomy w/o CDE Age 70 w/o CC	1.275	0.957	1.455	0.992	1.623	1.122	1.896	0.930	1.631
209	Major Joint Procedures	2.291	1.916	2.686	1.980	2.828	2.464	4.133	2.185	3.412
294	Diabetes Age 36+	0.809	0.768	0.567	0.788	0.530	0.720	0.485	0.700	0.456
336	Transurethral Prostatectomy Age 70+ &/or CC	1.008	0.898	1.591	0.910	1.671	0.919	1.955	0.737	1.635
337	Transurethral Prostatectomy Age 70 w/o CC	0.849	0.752	1.512	0.733	1.538	0.801	1.883	0.591	1.574

NOTES: w/o means without; CC means cormorbidity and or complication; AMI acute myocardial infarction; CHF is congestive heart failure; CDE is common duct exploration.

SOURCE: Mitchell et al 1985, Table 2.2: PPS cost weights are taken from the Federal Register 9/1/83. The remaining cost weights were calculated from 1982 Medicare Part A and Part B claims from the four states.

Table 3.3
Coefficients of Variation (CV) for mean payments for hospitals and physicians for 25 common DRGs: four states, 1982

DRG		Michigan		New Jersey		North Carolina		Washington	
		Hosp	Phys	Hosp	Phys	Hosp	Phys	Hosp	Phys
14	Specific Cerebrovascular Disease exc TIA	0.99	0.90	1.01	0.74	1.06	0.86	1.12	0.87
15	Transient Ischemic Attacks	0.96	0.93	0.90	0.69	1.09	1.10	0.98	0.78
16	Nonspecific Cerebrovascular Disease w/CC	1.03	0.92	0.85	0.70	--	--	2.04	1.21
17	Nonspecific Cerebrovascular Disease w/o CC	1.02	0.93	0.83	0.76	1.06	1.03	1.28	0.68
39	Lens Procedures	0.55	0.34	0.56	0.26	0.48	0.21	0.41	0.18
89	Pneumonia Age 70+ and/or CC	1.03	1.00	1.01	0.88	1.10	0.92	1.17	1.07
90	Pneumonia Age 18-69 w/o CC	1.30	1.18	1.06	1.01	1.23	0.99	1.62	1.04
115	Perm Pacemaker Implant w/AMI or CHF	0.42	0.32	0.51	0.29	0.51	0.29	0.46	0.54
116	Perm Pacemaker Implant w/o AMI or CHF	0.48	0.36	0.43	0.30	0.50	0.30	0.54	0.35
127	Heart Failure & Shock	1.00	0.95	0.95	0.83	1.17	0.90	1.08	0.93
132	Atherosclerosis Age 70+ and/or CC	0.96	0.90	1.45	0.78	1.04	1.00	1.06	0.89
133	Atherosclerosis Age 70 w/o CC	0.85	0.83	1.33	1.39	1.06	1.09	0.75	0.96
140	Angina Pectoris	0.78	0.88	0.69	1.00	0.87	1.11	0.72	0.94
148	Major Bowel Procedures Age 70+ &/or CC	0.83	0.44	0.87	0.40	1.04	0.41	0.83	0.42
149	Major Bowel Procedures Age 70 w/o CC	1.01	0.55	0.71	0.36	0.81	0.34	0.65	0.36
182	Gastroenteritis & Misc. Dis Age 70 and/or CC	1.15	0.97	1.10	0.81	1.12	0.94	1.18	0.96
183	Gastroenteritis & Misc. Dis Age 18-69 w/o CC	1.11	0.94	0.88	0.82	0.96	0.92	0.79	0.87
195	Cholecystectomy w/CDE Age 70+ and/or CC	0.73	0.37	0.76	0.31	1.10	0.30	0.77	0.26
196	Cholecystectomy w/CDE Age 70 w/o CC	0.79	0.34	0.79	0.30	0.73	0.28	0.40	0.15
197	Cholecystectomy w/o CDE Age 70+ and/or CC	0.88	0.46	0.96	0.38	0.80	0.30	0.99	0.36
198	Cholecystectomy w/o CDE Age 70 w/o CC	0.72	0.37	0.65	0.32	0.66	0.26	0.47	0.26
209	Major Joint Procedures	0.45	0.31	0.57	0.33	0.52	0.23	0.38	0.19
294	Diabetes Age 36+	0.99	0.98	1.01	0.88	1.07	0.93	1.19	0.87
336	Transurethral Prostatectomy Age 70+ and/or CC	0.81	0.33	0.77	0.30	0.63	0.23	0.71	0.21
337	Transurethral Prostatectomy Age 70 w/o CC	0.62	0.32	0.70	0.22	0.64	0.21	0.53	0.18

NOTES: w/o means without; CC means comorbidity and or complication; AMI is acute myocardial infarction; CHF is congestive heart failure; CDE is common duct exploration.

SOURCE: Mitchell et al 1985, Table 2.1 and A.1: Medicare Part A and Part B claims from Michigan, New Jersey, North Carolina and Washington 1982.

Table 3.4

R^2s for average physician and average hospital cost/charges per case individual patient as unit of observation

State	Physician	Hospital
Michigan[1]		
untrimmed data	0.47	0.17
trimmed data	0.63	0.30
New Jersey		
untrimmed data	0.57	0.18
trimmed data	0.70	0.32
North Carolina		
untrimmed data	0.57	0.16
trimmed data	0.75	0.32
Washington		
untrimmed data	0.73	0.30
trimmed data	0.84	0.48
South Carolina[2]		
untrimmed data	0.66	0.26
United States[3]		
untrimmed data	0.53	0.19

NOTE: Trimmed data excludes cases with costs more than 3 standard deviations from the state mean cost for the DRG in which the case falls.

SOURCES: [1]Michigan, New Jersey, North Carolina and Washington data: Mitchell et al 1985 Table 2.3: Medicare 1982 Part A and B claims from intermediaries and carriers; [2]South Carolina data: West et al 1985 page 79; [3]National data: Burney and Newton 1985 unpublished data.

Table 3.5

R^2 for physician reasonable charges and hospital cost/charge per case individual patient as unit of observation surgical vs. non-surgical cases

Place		Surgical		Medical	
		Physician	Hospital	Physician	Hospital
Michigan[1]	untrimmed data	0.46	0.34	0.07	0.06
	trimmed data	0.58	0.49	0.12	0.10
New Jersey	untrimmed data	0.53	0.31	0.05	0.06
	trimmed data	0.62	0.48	0.07	0.11
North Carolina	untrimmed data	0.64	0.33	0.03	0.04
	trimmed data	0.71	0.51	0.06	0.09
Washington	untrimmed data	0.70	0.39	0.10	0.09
	trimmed data	0.79	0.57	0.18	0.16
South Carolina[2]	untrimmed data	0.55		0.07	
United States[3]	untrimmed data	0.39	0.31	0.04	0.06

NOTE: Trimmed data excludes cases with costs more than 3 standard deviations from the state mean cost for the DRG in which the case falls.

SOURCES: [1]Michigan, New Jersey, North Carolina and Washington data: Mitchell et al 1985 Table 2.3: Medicare 1982 Part A and B claims from intermediaries and carriers. [2]South Carolina 1982 data: West et al 1985 page 79; [3]National 1981 data: Burney and Newton 1985 unpublished data.

Table 3.6

Descriptive power of DRGS for average physician payment per case hospital/medical staff as unit of observation

State	R^2	No. Hosps
Michigan	0.54	197
New Jersey	0.26	98
North Carolina	0.88	130
Washington	0.94	75
Pooled data	0.53	500

SOURCE: Mitchell et al 1985 and supplementary communication.

Table 3.7

Distribution of gains (losses) per admission under PPSP medical staff as the unit of observation

Gains (Loss) Per Admission	Michigan (n=197)	New Jersey (n=98)	North Carolina (n=130)	Washington (n=75)
(> $350)	3.0	0.0	0.0	0.0
(301)-(350)	2.0	0.0	0.0	0.0
(251)-(300)	2.5	3.1	0.0	1.3
(201)-(250)	2.0	1.0	0.8	1.3
(151)-(200)	6.1	2.0	0.8	1.3
(101)-(150)	4.6	10.2	3.1	2.7
(51)-(100)	10.2	19.3	5.4	12.0
(50)-50	23.9	29.6	46.9	46.7
51-100	12.2	12.2	23.8	21.3
101-150	8.1	6.3	13.1	13.3
151-200	9.1	4.1	3.8	0.0
201-250	6.1	0.0	2.3	0.0
251-300	5.6	1.0	0.0	0.0
301-350	4.1	0.0	0.0	0.0
> $350	0.5	1.0	0.0	0.0

SOURCE: Mitchell et al 1985. Merged A-B Medicare files for 1982 for Michigan, New Jersey, North Carolina and Washington.

Table 3.8

Distribution of gains (losses) as a percent of Medicare revenue under PPSP medical staff as the unit of observation percentage of admissions and percentage of hospitals

(Losses) Gains As % of Medicare Revenue	Michigan		New Jersey		North Carolina		Washington	
	Hospitals (n=197)	Admissions (n=298,770)	Hospitals (n=98)	Admissions (n=296,994	Hospitals (n=130)	Admissions (n=235,335)	Hospitals (n=75)	Admissions (n=95,385)
Lose more than 40%	2.0	.6	0	0	0	0	0	0
40% - 20%	9.6	8.9	2.0	1.1	2.3	4.8	2.7	3.5
20% - 10%	12.7	20.9	16.3	13.2	6.9	15.2	6.7	7.2
10% - 05%	9.1	13.6	18.4	28.9	8.5	13.1	13.3	15.3
Lose 5% to gain 5%	13.7	14.5	25.5	28.4	26.2	29.4	29.3	35.6
Gain 5% - 10%	5.6	5.4	10.2	10.5	10.0	9.4	12.0	19.5
10% - 20%	11.7	12.8	20.4	20.4	13.1	15.5	20.0	13.1
20% - 40%	18.3	15.4	6.1	5.4	20.8	9.6	12.0	4.8
40% - 60%	8.1	3.7	0	0	4.6	1.2	4.0	0.9
60% - 75%	4.5	3.0	0	0	3.8	0.9	0	0
75% - 100%	2.0	0.5	0	0	3.8	0.9	0	0
100% or more	2.5	0.8	1.0	0.06	0	0	0	0

SOURCE: Mitchell et al 1985, Table 5.5. Merged A-B Medicare files for 1982 for Michigan, New Jersey, North Carolina and Washington.

Table 3.9

Distributive impact of DRGs on medical staffs

	Per Case Gain (loss)	Total Payment per Case	Win 100+ per Admission	Break-Even (± 100)	Lose $100+ per Admission
Michigan					
All (n=197)	$ 20	651	34%	46%	20%
Teaching (n=57)	(52)	891	21	39	40
Non-Teaching (n=140)	49	554	39	49	12
New Jersey					
All (n=98)	$ 13	905	22%	62%	16%
Teaching (n=48)	9	962	17	64	19
Non-Teaching (n=50)	13	850	29	57	14
North Carolina					
All (n=130)	$ 37	440	19%	76%	5%
Teaching (n=16)	(14)	656	25	44	31
Non-Teaching (n=114)	25	409	13	83	4
Washington					
All (n=75)	$ 23	620	12%	83%	5%
Teaching (n=7)	(2)	1069	0	86	14
Non-Teaching (n=68)	25	573	13	83	4

SOURCE: Mitchell et al 1985, Table 5.2, supplemented by author. Medicare Part A and Part B claims from Michigan, New Jersey, North Carolina and Washington 1982.

Table 3.10

Comparison of medical staffs losing more than 20% of Medicare revenue under PPSP with all other medical staffs

Characteristic	Michigan		New Jersey		North Carolina		Washington	
	Losers	Others	Losers	Others	Losers	Others	Losers	Others
No. of hospitals	23	174	2	96	3	127	2	73
Bedsize	182	191	367	300	391	182	140	107
Medicare Adms/yr	1,216	1,556	1,491	2,781	3,787	1,763	1,676	1,261
Average $/adm for								
Consultations	$ 80	$ 31	$ 100	$ 59	$ 32	$ 11	$ 23	$ 13
Radiology	184	79	99	76	98	50	167	85
Other tests	69	23	298	87	51	14	144	22
Surgical assistant	56	47	271	98	42	34	92	94
Other surgical	110	60	93	85	101	38	61	34
Total charges	$1,088	$ 594	$ 1,119	$900	$ 715	$ 453	$ 863	$ 613
				Percent				
Per Cent of Hospitals which are								
Urban	91.3%	77.0%	100%	100%	33.3%	36.2%	50%	41.1%
Teaching	47.8	26.4	50	48.9	66.7	11.0	0	9.6
Government	4.2	23.0	0	3.1	100	38.6	0	49.3
For Profit	8.3	2.3	0	2.1	0	6.3	0	4.1
Per Cent of Adms								
Coronary bypass	0.1	0.0	0.0	0.2	0.2	0.1	0.9	0.4
Cancer diagnoses	6.0	7.8	10.2	9.5	11.8	6.6	4.5	6.8
Lens procedures	4.0	2.8	1.2	2.9	3.1	3.6	0.0	3.2
Special surgery*	0.3	0.4	0.6	0.8	0.9	0.3	1.2	0.6
Per Cent of Cases Which were Losers								
Medical DRGs	57.2	27.0	59.0	35.2	59.8	27.6	58.9	30.0
Surgical DRGs	66.5	38.4	82.5	42.2	35.0	42.1	66.9	43.9

NOTE: Figures are averages of hospitals in the column, unweighted for bedsize.

*Special surgery consists of craniotomy (DRGs 1,2), kidney transplant (DRG 302), operating room procedures for blood-forming organs (DRG 394), major vascular reconstruction (DRGs 110-111), cardiac valve procedures (DRGs 104-105), adrenal surgery (DRG 286), skin grafting (DRG 287), parathyroid surgery (DRG 289), extensive burns and burns with grafts and debridement (DRGs 457-459).

SOURCE: Mitchell, unpublished data.

Table 3.11

Percent of within-DRG physician cost variation explained by specialty of attending physician

DRG	Name of DRG	Mich	NJ	NC	Wash
14-17	Cerebrovascular disorders	3.8%	1.0%	7.3%	6.8%
89-90	Pneumonia	2.6	1.7	3.8	6.7
127	Heart failure and shock	1.8	1.4	3.9	3.1
132-133	Atherosclerosis	1.5	0.6	4.6	3.6
140	Angina Pectoris	1.4	0.7	3.6	2.9
182-183	Gastroenteritis and miscellaneous digestive disease	1.8	1.1	4.0	4.0
294	Diabetes	1.8	1.1	4.0	4.0

NOTE: Dummy variables were used to hold specific DRGs constant for those conditions encompassing two or more DRGs.

SOURCE: Mitchell et al 1985: Medicare Part A and Part B claims from Michigan, New Jersey, North Carolina and Washington 1982.

Table 3.12

Differences in treatment of Angina Pectoris (DRG #140): Across specialty and across four states[a], 1982

	Michigan			New Jersey			North Carolina			Washington		
	GP/FP (25%)	IM (53%)	CARD (9%)	GP/FP (15%)	IM (58%)	CARD (20%)	GP/FP (33%)	IM (61%)	CARD (4%)	GP/FP (29%)	IM (47%)	CARD (14%)
Routine Hospital Visits-Attending MD	$ 152 (1.00)	$ 190 (1.00)	$ 181 (1.00)	$ 171 (1.00)	$ 195 (1.00)	$ 191 (1.00)	$ 118 (1.00)	$ 158 (1.00)	$ 174 (1.00)	$ 112 (1.00)	$ 136 (1.00)	$ 135 (1.00)
Routine Hospital Visits-Other MDs	98 (0.10)	85 (0.10)	92 (0.11)	75 (0.32)	80 (0.16)	85 (0.14)	64 (0.09)	71 (0.17)	62 (0.21)	61 (0.23)	66 (0.24)	93 (0.36)
ICU Visits	131 (0.21)	157 (0.27)	151 (0.30)	130 (0.28)	143 (0.41)	137 (0.49)	62 (0.30)	79 (0.35)	127 (0.34)	99 (0.10)	100 (0.13)	96 (0.17)
Consultations	91 (0.34)	99 (0.30)	104 (0.23)	97 (0.57)	97 (0.30)	93 (0.25)	56 (0.12)	60 (0.11)	65 (0.18)	70 (0.18)	69 (0.14)	86 (0.28)
Diagnostic Surgery[b]	251 (0.04)	326 (0.07)	344 (0.07)	306 (0.06)	224 (0.05)	310 (0.05)	165 (0.03)	191 (0.05)	526 (0.10)	223 (0.03)	345 (0.04)	429 (0.07)
X-Rays	65 (0.90)	89 (0.90)	83 (0.90)	54 (0.95)	54 (0.96)	56 (0.96)	34 (0.92)	42 (0.92)	55 (0.94)	56 (0.99)	56 (0.99)	63 (0.98)
Other Tests	62 (0.83)	70 (0.93)	67 (0.91)	79 (0.95)	92 (0.95)	93 (0.96)	31 (0.76)	42 (0.93)	58 (0.97)	34 (0.76)	47 (0.80)	80 (0.89)
Total MDDRG Cost	$ 342	$ 439	$ 421	$ 432	$ 446	$ 454	$ 209	$ 292	$ 407	$ 235	$ 282	$ 376
Length of Stay	7.6	8.9	8.4	9.7	9.9	9.6	7.5	7.7	8.3	4.4	5.0	5.4

[a]All dollars are Medicare reasonable charges. Relative frequency of each physician service is in parentheses.

[b]Includes charges by surgeons, assistant surgeons, and anesthesiologists, all procedures.

NOTES: GP/FP is general and or family practitioner. IM is internist. CARD is cardiologist.

SOURCE: Mitchell et al 1985, Table 3.3: Medicare Part A and Part B claims from Michigan, New Jersey, North Carolina and Washington 1982.

Table 3.13

Differences in treatment of Pneumonia (DRG #89): Across specialty and across four states[a], 1982

	Michigan		New Jersey		North Carolina		Washington	
	GP/FP (39%)	IM (45%)	GP/FP (23%)	IM (58%)	GP/FP (47%)	IM (48%)	GP/FP (43%)	IM (41%)
Routine Hospital Visits-Attending MD	$ 221 (1.00)	$ 273 (1.00)	$ 250 (1.00)	$ 302 (1.00)	$ 177 (1.00)	$ 234 (1.00)	$ 164 (1.00)	$ 216 (1.00)
Routine Hospital Visits-Other MDs	126 (0.10)	128 (0.13)	96 (0.33)	115 (0.26)	76 (0.10)	97 (0.17)	91 (0.26)	107 (0.34)
ICU Visits	185 (0.04)	229 (0.08)	161 (0.08)	190 (0.11)	125 (0.05)	131 (0.10)	141 (0.03)	123 (0.07)
Consultations	103 (0.27)	115 (0.36)	113 (0.51)	117 (0.41)	55 (0.13)	64 (0.17)	80 (0.17)	82 (0.20)
Diagnostic Surgery[b]	243 (0.10)	293 (0.17)	311 (0.14)	315 (0.20)	153 (0.07)	165 (0.13)	201 (0.08)	229 (0.14)
X-Rays	75 (0.98)	97 (0.99)	63 (0.92)	69 (0.99)	44 (0.98)	55 (0.98)	65 (0.99)	80 (0.99)
Other Tests	27 (0.61)	38 (0.77)	58 (0.92)	84 (0.91)	14 (0.58)	18 (0.75)	32 (0.47)	46 (0.52)
Total MDDRG Cost	$ 385	$ 527	$ 512	$ 609	$ 260	$ 364	$ 305	$ 422
Length of Stay	11.5	13.2	13.8	14.6	12.2	12.2	7.9	9.3

[a]All dollars are Medicare reasonable charges. Relative frequency of each physician service is in parentheses.

[b]Includes charges by surgeons, assistant surgeons, and anesthesiologists, all procedures.

NOTES: GP/FP is general and or family practitioner. IM is internist. CARD is cardiologist.

SOURCE: Mitchell et al 1985. Table 3.4 Medicare Part A and Part B claims from Michigan, New Jersey, North Carolina and Washington 1982.

Table 3.14

Geographic variation in number of routine hospital visits by DRG

DRG		Michigan		New Jersey		North Carolina		Washington	
		Per Admission	Per Day	Per Admission	Per Day	Per Admission	Per Day	Per Admission	Per Day
14	Specific Cerebrovascular Disease exc TIA	16.4	1.03	18.1	0.95	15.5	0.96	13.4	1.06
15	Transient Ischemic Attacks	9.5	1.04	11.2	1.03	7.9	1.02	5.2	1.04
16	Nonspecific Cerebrovascular Disease w/CC	13.4	1.01	16.1	0.95	---	---	12.2	1.14
17	Nonspecific Cerebrovascular Disease w/o CC	11.6	1.04	12.8	1.04	11.7	1.01	7.4	1.01
39	Lens Procedures	0.6	0.15	1.4	0.34	0.2	0.06	0.2	0.07
89	Pneumonia Age 70+ and/or CC	12.5	1.01	14.7	1.01	12.3	1.01	9.1	1.03
90	Pneumonia Age 18-69 w/o CC	11.1	1.03	12.2	1.04	10.5	1.02	6.7	0.99
115	Perm Pacemaker Implant w/AMI or CHF	16.0	0.81	28.2	1.39	18.0	1.15	10.9	0.79
116	Perm Pacemaker Implant w/o AMI or CHF	9.7	0.81	15.6	1.09	16.2	1.37	7.2	0.93
127	Heart Failure & Shock	11.4	0.98	12.5	0.94	10.4	0.95	8.1	1.03
132	Atherosclerosis Age 70+ and/or CC	10.2	0.97	11.7	0.97	10.0	0.93	6.4	1.00
133	Atherosclerosis Age 70 w/o CC	8.1	0.94	10.6	0.96	7.8	0.91	4.4	0.94
140	Angina Pectoris	7.6	0.90	8.7	0.89	7.0	0.91	4.9	1.00
148	Major Bowel Procs Age 70+ and/or CC	12.7	0.61	19.3	0.82	10.4	0.52	7.8	0.50
149	Major Bowel Procs Age 70 w/o CC	9.4	0.51	15.7	0.77	6.5	0.39	4.7	0.34
182	Gastroenteritis & Misc. Dis Age 70 and/or CC	9.4	1.02	10.8	1.03	8.4	1.01	6.1	1.02
183	Gastroenteritis & Misc. Dis Age 18-69 w/o CC	8.7	1.02	9.4	1.02	7.6	1.01	5.0	1.03
195	Cholecystectomy w/CDE Age 70+ and/or CC	10.9	0.66	15.9	0.79	9.5	0.56	6.7	0.49
196	Cholecystectomy w/CDE Age 70 w/o CC	6.8	0.51	10.5	0.62	6.5	0.44	1.7	0.18
197	Cholecystectomy w/o CDE Age 70+ and/or CC	7.2	0.55	15.7	0.99	7.1	0.52	4.2	0.40
198	Cholecystectomy w/o CDE Age 70 w/o CC	4.6	0.43	7.2	0.60	5.0	0.44	2.1	0.27
209	Major Joint Procedures	8.1	0.44	14.0	0.62	3.5	0.20	3.4	0.25
294	Diabetes Age 36+	11.8	1.03	13.4	1.01	10.5	1.00	8.2	1.05
336	Transurethral Prostatectomy Age 70+ and/ or CC	4.8	0.47	8.1	0.68	3.3	0.32	1.8	0.26
337	Transurethral Prostatectomy Age 70 w/o CC	4.0	0.46	4.7	0.49	2.3	0.26	0.6	0.11

NOTE: w/o means without; CC means comorbidity and or complication; AMI is acute myocardial infarction; CHF is congestive heart failure; CDE is common duct exploration.

SOURCE: Mitchell et al 1985. Table A.4: Part A and Part B claims from Michigan, New Jersey, North Carolina and Washington 1982.

Table 3.15

Geographic variation in use of assistant surgeons by DRG (percent of admissions)

DRG		Michigan	New Jersey	North Carolina	Washington	National
5	Extracranial Vascular Procedures	28.1%	57.3%	31.7%	64.8%	49.0%
39	Lens Procedures	28.0	75.6	2.3	35.9	29.5
110	Major Reconstruct Vasc Procs Age 70+ and/or CC	29.6	61.9	45.5	80.2	49.6
111	Major Reconstruct Vasc Procs Age 70 w/o CC	23.4	55.7	53.0	80.5	46.2
115	Perm Pacemaker Implant w/AMI or CHF	6.5	23.8	2.1	17.6	10.5
116	Perm Pacemaker Implant w/o AMI or CHF	5.8	29.6	2.2	12.9	9.0
148	Major Bowel Procedures Age 70+ and/or CC	32.1	55.0	41.7	81.5	46.4
149	Major Bowel Procedures Age 70 w/o CC	29.1	60.5	46.9	66.4	45.2
161	Inguinal/Femoral Hernia Procedures Age 70+ and/or CC	27.9	42.9	17.0	54.9	35.0
162	Inguinal/Femoral Hernia Procedures Age 18-69 w/o CC	25.2	37.8	14.7	60.5	33.3
195	Cholecystectomy w/CDE Age 70+ and/or CC	41.9	56.2	49.4	80.3	—
196	Cholecystectomy w/CDE Age 70 w/o CC	41.2	60.7	51.6	76.9	—
197	Cholecystectomy w/o CDE Age 70+ and/or CC	41.9	61.0	47.9	75.4	51.4
198	Cholecystectomy w/o CDE Age 70 w/o CC	42.1	59.6	45.5	76.4	44.6
209	Major Joint Procedures	27.0	51.4	56.6	82.3	46.9
210	Hip & Femur Procs Exc Major Joint Age 70+ &/or CC	19.4	41.6	14.5	53.2	32.6
211	Hip & Femur Procs Exc Major Joint Age 18-69 w/o CC	17.6	38.5	14.8	52.1	31.0
257	Total Mastectomy for Malig Age 70+ and/or CC	30.5	45.3	36.3	68.5	40.9
258	Total Mastectomy for Malig Age 70 w/o CC	28.7	43.5	35.1	75.4	48.3
336	Transurethral Prostatectomy Age 70+ and/or CC	1.7	4.0	0.6	2.3	1.8
337	Transurethral Prostatectomy Age 70 w/o CC	0.9	1.9	0.5	1.4	0.7
354	Nonradical Hysterectomy Age 70+ and/or CC	46.5	50.9	42.4	84.8	48.7
355	Nonradical Hysterectomy Age 70 w/o CC	48.6	43.2	43.5	81.5	45.8

NOTES: w/o means without; CC means cormorbidity and or complication; AMI is acute myocardial infarction; CHF is congestive heart failure; CDE is common duct exploration; --- means data not available.

SOURCE: State data: Mitchell et al 1985. Table A.3: Medicare Part A and Part B claims from Michigan, New Jersey, North Carolina and Washington 1982. National data: National data from unpublished work of Burney and Newton, HCFA.

Table 3.16

Geographic variation in consultations per admission by DRG

DRG	Michigan	New Jersey	North Carolina	Washington
14 Specific Cerebrovascular Disc exc TIA	0.98	1.12	0.42	0.73
15 Transient Ischemic Attacks	0.81	0.84	0.36	0.36
16 Nonspecific Cerebrovascular Dis w/ CC	0.92	1.00	—	0.57
17 Nonspecific Cerebrovascular Dis w/o CC	0.80	0.87	0.37	0.35
39 Lens Procedures	0.22	0.47	0.12	0.04
89 Pneumonia Age 70+ &/or CC	0.51	0.67	0.20	0.26
90 Pneumonia Age 18-69 w/o CC	0.52	0.65	0.19	0.15
115 Perm Pacemaker Implant w/AMI or CHF	1.33	1.48	0.69	0.73
116 Perm Pacemaker Implant w/o AMI or CHF	1.01	1.35	0.57	0.47
127 Heart Failure & Shock	0.54	0.57	0.25	0.26
132 Atherosclerosis Age 70+ &/or CC	0.51	0.66	0.23	0.24
133 Atherosclerosis Age 70 w/o CC	0.51	0.69	0.20	0.22
140 Angina Pectoris	0.41	0.43	0.15	0.19
148 Major Bowel Procs Age 70+ &/or CC	1.10	1.51	0.64	0.53
149 Major Bowel Procs Age 70 w/o CC	0.99	1.38	0.49	0.40
182 Gastroenteritis & Misc. Dis Age 70 &/or CC	0.55	0.72	0.30	0.28
183 Gastroenteritis & Misc. Dis Age 18-69 w/o CC	0.64	0.72	0.33	0.34
195 Cholecystectomy w/CDE Age 70+ &/or CC	0.82	1.17	0.49	0.56
196 Cholecystectomy w/CDE Age 70 w/o CC	0.63	0.98	0.43	0.15
197 Cholecystectomy w/o CDE Age 70+ &/ or CC	0.67	1.11	0.44	0.33
198 Cholecystectomy w/o CDE Age 70 w/o CC	0.55	0.80	0.38	0.17
209 Major Joint Procedures	0.90	1.12	0.64	0.31
294 Diabetes Age 36+	0.61	0.66	0.29	0.27
336 Transurethral Prostatectomy Age 70+ &/or CC	0.74	0.91	0.44	0.21
337 Transurethral Prostatectomy Age 70 w/o CC	0.59	0.71	0.35	0.06

NOTE: w/o means without; CC cormobidity and or complication; AMI is acute myocardial infarction; CHF is congestive heart failure; CDE is common duct exploration.

SOURCE: Mitchell et al 1985. Table 6.15: Medicare Part A and Part B claims from Michigan, New Jersey, North Carolina and Washington 1982.

Table 3.17

Geographic variation in treatment for lens procedures (DRG #39)
Medicare reasonable charges (frequency of service in parenthesis)

	Michigan	New Jersey	No. Carolina	Washington
Surgeon	$1,480 (1.00)	$1,283 (1.00)	$1,129 (1.00)	$1,287 (1.00)
Anesthesiologist[1]	176 (1.00)	233 (1.00)	121 (1.00)	159 (1.00)
Assistant Surgeon	333 (0.28)	260 (0.76)	222 (0.02)	254 (0.36)
Other Surgery[2]	197 (0.04)	560 (0.04)	400 (0.04)	285 (0.02)
Routine Hospital Visits	94 (0.13)	94 (0.60)	80 (0.05)	68 (0.07)
ICU Visits	128 (***)	86 (0.01)	123 (***)	128 (***)
Consultations	82 (0.20)	76 (0.43)	45 (0.11)	58 (0.04)
X-Rays	26 (0.54)	15 (0.89)	18 (0.75)	32 (0.88)
Other Tests	15 (0.68)	19 (0.87)	9 (0.71)	18 (0.44)
Total MDDRG Cost	$ 1,826	$ 1,842	$ 1,293	$ 1,584
Length of Stay (days)	3.9	4.1	3.7	3.0

[1] Imputed for cases with combined billing of hospital and physician charges
[2] Includes charges by surgeons, assistant surgeons, and anesthesiologists.

NOTE: *** Frequency less than one percent

SOURCE: Mitchell et al, 1985, Table 3-1: Medicare Part A and Part B claims from Michigan, New Jersey, North Carolina and Washington 1982.

Table 3.18

Variation in treatment of gastrointestinal bleeding
mean number of services per patient across states

Type of Service	NUMBER OF PATIENTS		MEAN NUMBER OF SERVICES PER PATIENT	
	New Jersey	North Carolina	New Jersey	North Carolina
KUB[1]	1,148	857	1.47	1.47
UGI Series	1,596	1,745	1.19	1.12
Barium Enema	1,222	1,168	1.14	1.11
Abdominal CT Scan	100	95	1.29	1.15
Angiography	43	52	1.42	1.17
Nuclear Medicine	53	120	1.38	1.14
Upper Endoscopy Without Biospy	1,168	828	1.22	1.14
Upper Endoscopy With Biopsy	510	361	1.15	1.02
Colonoscopy Without Biopsy	654	284	1.27	1.15
Colonoscopy With Biopsy	224	122	1.09	1.08
Proctosigmoidoscopy Without Biopsy	413	487	1.13	1.09
Proctosigmoidoscopy With Biopsy	42	36	1.29	1.03

[1]KUB is a simple x-ray of the abdomen.

SOURCE: Iezzoni, L. and Moskowitz, M. Table 7.5: The clinical impact of DRG based physician reimbursement. Health Care Financing Administration Cooperative Agreement No. 18-C-98526/1-01, Waltham, Mass, Health Policy Research Consortium, Dec 1984.

Table 3.19

Average gains (losses) per admission by specialty under PPSP

	Michigan	New Jersey	North Carolina	Washington
Family Practice	$ 53	$ 59	$ 46	$ 45
General Practice	28	74	66	47
Cardiology	(89)	(69)	(230)	(230)
Gastroenterology	(159)	(132)	(243)	(34)
Internal Medicine	(38)	(16)	(63)	(62)
Pulmonary Disease	(155)	(154)	(251)	(187)
General Surgery	(17)	(43)	(8)	(26)
Neurosurgery	(115)	(133)	(44)	(160)
Obstetrics-Gynecology	3	24	15	6
Ophthalmology	26	47	30	(2)
Orthopedic Surgery	26	(18)	(6)	(29)
Otolaryngology	63	(14)	10	26
Plastic Surgery	(85)	(170)	(163)	(125)
Thoracic Surgery	(13)	(197)	(168)	56
Urology	(19)	(5)	4	(13)
Neurology	(9)	(101)	(158)	(60)
Psychiatry	(232)	78	(85)	(71)
All Physicians	(19)	(13)	(19)	(24)

SOURCE: Mitchell et al 1985. Table 4.2 Medicare Part A and Part B claims from Michigan, New Jersey, North Carolina, and Washington, 1982.

Table 3.20

Distribution winners and losers: average dollars per case

	Michigan	New Jersey	North Carolina	Washington
Big Winners ($150+)	30.2%	26.2%	15.8%	18.3%
Small Winners ($50-150)	16.1	18.0	25.7	25.9
Break Even (+$50)	15.6	18.6	26.0	22.2
Small Losers (-$50-150)	11.9	13.4	14.6	12.5
Big Losers (-$150+)	26.2	23.9	17.7	21.1

NOTE: Columns may not sum to 100 percent due to rounding.

SOURCE: Mitchell et al 1985. Table 4.1. Medicare Part A and Part B claims from Michigan, New Jersey, North Carolina, and Washington, 1982.

Table 3.21

Gains (losses) per case compared to payment per case which would be received under PPSP by specialty of attending physician : Michigan 1982

	Gain or loss[1]	Payment which would be received[2]
Family Practice	$ 53	$ 267
General Practice	28	243
Cardiology	(89)	461
Gastroenterology	(159)	219
Internal Medicine	(38)	252
Pulmonary Disease	(155)	183
General Surgery	(17)	512
Neurosurgery	(115)	713
OB-GYN	3	553
Ophthalmology	26	1,330
Orthopedic Surgery	26	746
Otolaryngology	63	621
Plastic Surgery	(85)	533
Thoracic Surgery	(131)	1,170
Urology	(19)	596
Neurology	(9)	239
Psychiatry	(232)	450
All Physicians	(19)	436

[1]Difference between payment to attending physician under a DRG system compared to payments under present system.

[2]Payment which the attending physician would receive if payments to non-attending physicians under present system were subtracted from DRG payment before attending was paid.

SOURCE: Mitchell et al 1985. Table 4.3. Medicare Part A and Part B claims from Michigan, 1982.

Table 3.22

Blending of hospital-specific, regional, and national rates for hospital PPS 3-year phase-in

	FY 1984	FY 1985	FY 1986	FY 1987
Hospital-Specific Rate	75%	50%	25%	--
Regional Rate	25%	37.5%	37.5%	--
National Rate	--	12.5%	37.5%	100%

Table 3.23

Changes in beneficiary cost-sharing under physician DRGs

	Per Cent of Hospitalized Beneficiaries	Average Cost-Sharing		Average Increase in Liability
		Fee-for-Service	PPSP	
Decrease of $150 or more	4.3%	$541	$231	-$310
Decrease of $75 to $150	5.4	290	185	-105
Change of Less Than $75	81.8	108	118	10
Increase of $75	6.9	157	257	100
Increase of $150 or more	1.6	270	475	205
All Beneficiaries	100.0%	$142	$142	$0

SOURCE: Mitchell et al, 1985, Table 6-1. North Carolina Part B claims, 1982

Table 3.24

Reasonable physician charges for inpatient services and corresponding volume control methods

Type of Service	Total 1982 Outlays (thousands)[1]		Non-PPSP Method of Control	Controlled/ Influenced by PPS	PPSP	PROs
Surgery	$3,744,064	(44.0%)	Admission Screening by PROs	no	no	yes
Surgical Assistance	$ 240,638	(2.8)	Restrict Benefit to certain Surgical Procedures	no	yes	no
Medical Care	$2,688,381	(31.6)				
Attending Physician Routine visits			Shorten stays	yes	yes	+/-
Attending Physician Intensive care visits			Reduce ICU use	yes	yes	+/-
Attending Physician Non-OR procedures			Necessity review; Ancillary costs	+/-	yes	+/-
Anesthesia Services	$ 624,868	(7.3)	Control volume of surgery.	no	+/-	yes
Consultations	$ 376,303	(4.4)				
Specialty			No evidence of over-use	no	yes	no
Family Physician			Better carrier enforcement of definitions of consultation.			
Diagnostic Radiology	487,074	(5.7)	Ancillary costs	yes	yes	no
Therapeutic Radiology	43,214	(0.5)	Ancillary costs	yes	yes	no
Diagnostic Laboratory	287,539	(3.4)	Ancillary costs	yes	yes	no
All other	15,248	(0.2)				
Total	8,507,329	(100.0)				

[1]Outlays have been truncated when divided by 1,000.

NOTES: The data file contains bills of a 1 percent sample of Aged beneficiaries and a 5 percent sample of Disabled/ESRD beneficiaries. Limited to beneficiaries who met the deductible.

CHAPTER FOUR

CAPITATION

1. THE CONSUMER CHOICE MODEL OF COMPETITION AND THE USE OF CAPITATED PAYMENTS. To make competitive consumer choices an effective cost-containment force in the Medicare system, consumers must be able to make a small number of choices with clear cost consequences and free of unreasonable pressure. By contrast, when consumers choose physicians and decide on hospitalization or other services, the decisions are extremely complex, the cost implications are difficult to learn, and the decision is made under constraints of illness and time. Medicare seeks to make these consumer choices more cost-conscious and more effective by having consumers make an occasional choice between health care systems rather than having cost decided by a large number of small, less-informed, and pressured choices about services and physicians. The tool to achieve this goal is capitated payment.

Capitation is a method of payment in which a payor, such as Medicare or an employer or an individual, pays an amount fixed in advance for a health care benefits package which will be provided to a beneficiary over a year. Capitated systems have broad appeal because of the combination of incentives which they create both for competition and for efficiency, coordination, and continuity of care. Previous chapters have presented the incentives for efficiency implicit in bundling services for a single price using devices such as special procedure packages and DRGs. Capitation is the big bundle, in which all services for a year are purchased for a single price.

Originally, capitation in this country was almost synonymous with health maintenance organizations (HMOs), of which Kaiser was the archetype. About 6 percent of the U.S. population (Interstudy 1984) and 2 percent of the elderly are now enrolled in HMOs (HCFA 1985c). However, a number of competing types of organizations have entered the market with a willingness to accept a capitated payment in exchange for underwriting care:

--CMPs were formally authorized by the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA). CMPs are organizations which guarantee to deliver the Medicare benefit package in return for a fixed annual payment; CMPs include organizations which could not qualify as HMOs. The CMP/HMO may charge the beneficiary a supplementary premium for services which exceed the Medicare benefit package. A CMP/HMO must project a cost for the Medicare benefit package based on experience (the Adjusted Community Rate or ACR). If the ACR is lower than Medicare's payment (discussed in section 5), the CMP/HMO must return the difference to the beneficiary in the form of increased benefits or decreased copayments and may not retain the difference as profit.

--Networks of privately practicing physicians who have associated to provide service for a capitated payment. These Independent Practice Associations (IPAs) may be quite similar to those HMOs which use independent physicians instead of having a salaried staff. IPAs are classified as HMOs by Medicare, but IPA physicians commonly share the risks and profits of the system, which is less common and generally more limited in other HMOs. A closely related capitated system, the Primary Care Network (PCN), is discussed in section 4. The inclusion of hospital services in these programs varies.

--A relatively new approach is capitated organizations which are not health care providers but which accept a capitated payment in return for arranging to finance a health care benefit package for all individuals in a region or a group. As changes in health insurance continue, arrangements of this kind can be expected to grow and to take an increasing variety of forms. Such organizations are discussed in section 6.

The variety of capitation systems can create concerns for Medicare because growing local diversity may appear to compromise the national uniformity of the program. Nevertheless, a number of the strengths of capitation which are discussed in the next section arise from this diversity. Section 2 reviews the advantages of capitation and section 3 provides a brief summary of the record of capitated systems. The next three sections examine the questions of what services to include in capitation, how much to pay, and whom to pay. Section 7 reviews conventional capitated providers, section 8 describes geographic capitation, section 9 discusses Expanded Consumer Choice, and section 10 analyzes potential impact on beneficiaries. Section 11 discusses possible demonstrations and section 12 summarizes findings.

2. THE ADVANTAGES OF CAPITATION. Capitation has become popular for a variety of reasons:

a. INCENTIVES FOR EFFICIENCY. Because capitation puts the entity receiving the capitated payment at risk for the cost of care, capitated systems have strong incentives for efficiency. The capitated system has three important tools for achieving this efficiency:

--Bargaining, contracting, and restricting use of providers in order to secure favorable prices for individual services.

--Substituting outpatient for inpatient care, using gatekeepers and primary care networks to secure a more economical mix of services, and substituting mid-level for high-level professionals.

--Using utilization review and peer pressure to control overall quantity of service. Because providers are generally in either a contractual or preferred provider relation to the capitated system, the power of this control is far greater than that of an insuror such as Medicare. Capitated providers can also use coinsurance and copayment to control utilization, just as Medicare does.

In addition, the capitated system may be able to realize efficiencies by adding certain benefits, selectively or in exceptional cases, which could not economically be made part of a nationally-administered benefit package.

b. REDUCED FEDERAL REGULATION AND PROMOTION OF COMPETITION. When capitation is a tool for Medicare payments, it moves the focus of management to the capitated system, and away from the national Medicare program on one hand and away from the individual beneficiary on the other. In turn, the capitated system is responsible for determining such details as which providers participate, where services will be provided, how fast bills will be submitted, how fee schedules (if used) will be updated, and whether mid-level professionals can be used. This decentralization of the organization of care is very different from decentralizing regulation by relying on State rate setting or block grants. Despite capitation,

Medicare would remain a national program with national rules regarding such issues as beneficiary eligibility, coverage of services, and overall setting of capitated payments.

Capitation promotes competition in two ways. In markets where capitation is a force, there is usually significant competition between capitated systems. This competition tends to be relatively efficient in that beneficiaries, employees, or corporations making choices can compare comprehensive prices for a year's care more easily than they can compare benefit packages which include large and somewhat unpredictable coinsurance and deductible costs. For Medicare beneficiaries this is likely to be even more true. In addition, the aggressive marketing of capitated systems tends to heighten the level of competition among noncapitated as well as capitated providers. Finally, it appears that beneficiaries may feel freer to shift between plans than to shift between personal physicians; consumer willingness to change sources of care is likely to create a more competitive market.

c. BENEFICIARY CHOICE. Capitated systems add a dimension to beneficiary choice and invite beneficiaries to make decisions regarding their sources of care which have predictable and substantial effects on costs. Those choices currently have less clear cost implications for beneficiaries who cannot know, in advance of receiving care, what liabilities they will incur. In addition, capitation offers choices to beneficiaries which may be otherwise inaccessible, since capitated systems can offer comprehensive benefit packages which fill in gaps in Medicare (e.g, catastrophic coverage, elimination of risk from unassigned bills, coverage of drugs, and reduced cost sharing).

d. INCREASED EFFICIENCY FOR MEDICARE. Medicare spends about $1.5 billion a year on program administration. By changing Medicare's role from a payor of claims for hundreds of millions of individual services to a purchaser of a comprehensive benefit package, capitation reduces Medicare's administrative costs. In addition, to the extent that a capitated system assumes the risk of these costs as part of the benefit package, the capitated system has incentives to control them through simplified information handling and billing systems.

e. CLINICAL APPROPRIATENESS. Under Medicare, capitation can enhance the clinical appropriateness of service through freedom to add cost-effective services which may not be part of the benefit package. For example, a capitated carrier might provide nonhospital services in order to permit ambulatory care in a way which is more flexible than national regulations can allow. Although a capitated system accepting Medicare beneficiaries must maintain the basic Medicare benefit package, it can augment that package far more flexibly than can the national Medicare program. To put this another way, a capitated system has greater flexibility to identify and correct situations where the design of the benefit package results in local over-use of certain services.

It is widely held that capitated providers have a financial incentive to keep patients well which is absent in other payment systems. This argument holds that it is therefore natural that capitated providers have been in the forefront in providing prevention services as part of their service package. Other analysts argue that prevention services are offered for marketing rather than health care, that there is little substantive difference in the preventive activities of capitated and non-capitated providers, and that the capitated carriers have been in the forefront of

demonstrating that their prevention services are not necessarily cost-effective (Garfield 1970).

3. THE RECORD FOR CAPITATION SYSTEMS. Studies of capitated systems indicate that the theoretical advantages described in the last section are often realized in practice. Specifically:

a. EFFICIENCY. Capitated systems have consistently delivered care at lower annual costs than conventional insurance systems (Luft 1978, 1981). They have been able to enter health care markets and achieve a growing market share. Predominantly, these savings appear to be achieved by a 20-40 percent reduction in hospital use. Ambulatory use tends to be higher, but this may result from substitution of ambulatory for inpatient care, and it is difficult to know whether services usually delivered in ambulatory settings are delivered more efficiently or not. Wallack and Pomeranz (1984) have shown that service use in HMOs in different regions is much more similar than service use in the nonenrolled populations of the communities in which these HMOs are located. Their evidence suggests that HMOs may converge toward reasonably efficient patterns of service.

Students of capitation have suggested that it achieves some of its savings by enrolling healthier individuals at lower risk for needing health care. Eggers and Prihoda (1982) have shown that Medicare beneficiaries who enroll in HMOs used fewer health services than nonenrollees during the period before enrollment, but Blumberg (1980) showed that employed West Coast HMO enrollees had at least as much chronic illness and morbidity as employed nonenrollees. It may be that the

chronically ill among Medicare beneficiaries are more likely to be so disabled as to reduce their awareness of or ability to enroll in capitated systems. Individuals still employed would be unlikely to have that degree of impairment. The Rand Health Insurance Study (Manning et al 1984) indicates that capitated systems have lower costs even after selective enrollment is taken into account.

b. QUALITY OF CARE. Capitation clearly creates incentives for providers to achieve savings by decreasing the amount of care, and specifically by providing inappropriately fewer inpatient services. Clearly this risk must remain a matter of concern, especially as capitated systems become increasingly competitive. Nevertheless, a series of sophisticated studies have failed to reveal any diminution of quality of care in capitated systems. The Rand study was confined to patients under 65 who may be at less risk than the elderly and disabled for adverse health outcomes from small differences in quality of care, but it would be surprising to see negative effects only in these special populations. Studies of the differential impact of placing people in different health care systems can show substantial health effects (Lurie et al 1984), so the Rand study would be expected to have revealed differences if they were present. Continued monitoring of this issue will be appropriate and HCFA is developing programs in this area.

4. WHAT SERVICES SHOULD CAPITATION INCLUDE FOR MEDICARE? Capitation systems in the United States generally cover both physician and hospital services. But a number of capitated systems apply to physician services alone. The idea of capitation for physician services is appealing because the total amounts at risk would be much smaller, the relative risks would be lower, and relatively small organizations such as modest group practices could become capitated providers. By

contrast, relatively large organizations are necessary to absorb the risk involved in accepting capitated payments for hospital services.

From Medicare's view, an interesting alternative to making capitated payments to a comprehensive capitated system would be to make a capitated payment to physician groups for Part B services and provide some incentives to the physicians to reduce hospitalization rates. Such an approach assures that savings from reduced hospitalization are realized by Medicare with a consequent moderation in program costs. In addition, the reduced incentive to restrain hospitalization might protect beneficiaries from inappropriate reductions in needed care.

Several major experiments with capitation of physician services have yielded ambiguous results. The British National Health Service capitates most of the services of primary care physicians but does not put them at risk for physician services by specialists; the Italian system is somewhat similar. This approach is consistent with a major experiment with physician-level capitation (Richardson et al. 1984), which showed that primary care physicians had great difficulty in controlling use of specialist services.

In the experiments described above, the individual primary care physician received a capitated payment from the system for the primary care of each enrolled beneficiary. Less common are systems in which all physician services are capitated but other health services are not included; Redwood Health Foundation, a geographic system described in section 8, is perhaps the largest experiment of this general kind. One example of physician capitation for Medicaid, the Wayne County (Michigan) Capitated Ambulatory Plan, which is less than (2) years old, has

attracted only limited physician interest. Physicians and physician groups which wish to participate in a capitated system may prefer to affiliate with a full-service capitated provider so that the savings achieved by reducing hospitalization can be used to provide more generous payments to physicians.

On the other hand, a number of corporate health care systems which have ventured into capitated services have used primary care networks and similar physician-capitation systems as the basis of the physician side of their programs.

Despite some theoretical virtues of limiting capitation to physicians, comprehensive capitation has a number of advantages which probably account for its wide general acceptance in the United States: it is easier for beneficiaries to understand and use, gives the system greater incentives to save on hospital services, and prevents physicians shifting costs to hospital care. An even stronger argument for making capitation comprehensive under Medicare is that it would be more difficult to create nationally administrable incentives for physicians to reduce use of hospitalization; the attraction of comprehensive capitation for Medicare is that administration of those incentives to control hospital costs can be implemented in local capitated systems.

5. HOW MUCH TO PAY. Medicare currently determines its payments to capitated providers which are at risk for care used through a system called Average Adjusted Per Capita Cost (AAPCC). This is an underwriting system which estimates the risk for a beneficiary based on four factors--age, sex, institutional status (whether the beneficiary is in a nursing home or similar institution), and welfare status (whether the beneficiary is on Medicaid).

The AAPCC system estimates average costs on a county-by-county basis relative to the national average and projects these forward using national trends. The county specific rates are adjusted for the underwriting characteristics of the beneficiary. The payment to HMOs and CMPs is then 95 percent of the AAPCC for each enrollee. There is some consensus that this is an extremely attractive rate which can be expected to attract a significant number of providers into the HMO/CMP program.

There has been some controversy regarding the adequacy or fairness of this system, which gives no explicit consideration either to current health status or recent health history. As noted above, there is evidence that Medicare HMO enrollees have used less health care immediately before enrollment than nonenrollees with the same underwriting characteristics. There is also evidence that over time enrollees will tend to become more like nonenrollees (that is, the healthy enrollees will tend to acquire diseases while the nonenrollees will tend to recover from diseases). But the chronically-ill elderly tend not to recover. Over time, the health care needs of beneficiaries tend to become more alike (regression to the mean), which reduces the effect of selective enrollment. But it is not yet clear how much enrollment bias persists over time.

Further research on the AAPCC is in progress and is extremely important to assure proper payments to HMOs and CMPs. One question in this research will be how to make better adjustments for current health status of enrollees. A second, of equal importance, is how and when to move from payments based on the cost of care in noncapitated systems to payments based on cost of care in capitated systems or to payments based on competitive price setting.

Bidding for capitated contracts is possible, but experience is limited. Medicare uses bidding to award some contracts for administration of Part A and Part B but has not used bidding to award contracts for delivery of services. Some States and corporations which have used bidding have experienced significant problems securing adequate competition. The method of conducting such bidding may be an important area for demonstrations.

6. WHO TO PAY. Much of the remainder of this chapter is concerned with the question of who to pay--that is, what kind of capitated systems Medicare should seek to deal with. Clearly a capitated system must have three features--fiscal responsibility, ability to deliver services, and adequate size to provide actuarial and financial soundness. Other features of a captitated system may vary widely.

Conventional capitated providers, broadly defined as Health Maintenance Organizations, and Competitive Medical Plans (discussed in section 7) now have legal and regulatory authority for accepting Medicare beneficiaries in return for 95 percent of the AAPCC. However, even the most optimistic projections of growth for these programs envision enrollment of no more than a quarter to a half of the Medicare beneficiary population in the next few years. Even if these optimistic projections are met, HCFA will still be underwriting the majority of its beneficiaries, which might lead to significant problems if there is substantial favorable selection to HMO/CMPs. This leads to consideration of entities which might receive capitation payment for all beneficiaries in an area without requiring either enrollment of beneficiaries or new corporate structures for providers (section 8).

Insurors appear to be likely organizations to fill this role. A greatly expanded role for these insurors would be consistent with the general change in private health insurance which has been discussed earlier. However, transferring responsibility to already dominant organizations raises concerns about whether a competitive environment could thrive.

7. CONVENTIONAL CAPITATED PROVIDERS. Describing CMPs and HMOs as "conventional" capitated providers suggests more similarity among the different providers than actually exists. In fact, the diversity is quite extraordinary. In some systems physicians are on salary; in others they share the risk of containing the costs of physician services; in others they also share some or all of the risk of containing the cost of hospital services. IPAs bring together physicians who share risk for their mutual efficiency while providing care as independent practitioners. In some cases the organization which receives the capitation payment has only an agreement with independently practicing physicians that they will submit to certain types of pre-review of their care plans in order to contain costs; in other cases, the organization employs the physicians and writes detailed rules as to how they may care for patients. The common denominator is that the organization receiving the capitation payment:

--Acts as an insurer and takes risks in return for the expectation of profit or growth, but also

--Sets a structure or set of rules for how the beneficiary may get care or how the provider may deliver care, which is expected to reduce costs compared to the usual practice of fee-for-service medicine.

Under TEFRA, several conditions were set on systems which could receive capitated payments from Medicare. Four conditions which may have limited participation are that the system:

--must establish standard rates for their communities (the "community rating" requirement);

--may not make a profit from any difference between AAPCC and the community rate;

--must have contractual relationships with providers; and

--may not have beneficiary copayments which exceed the equivalent of Medicare's coinsurance and deductible.

Some critics have argued that relaxing these rules could significantly accelerate the enrollment of Medicare beneficiaries in capitated systems, but no hard evidence is yet available. Differences between present systems and other capitated systems are much more differences in degree of flexibility than unbridgeable categorical distinctions.

8. GEOGRAPHIC CAPITATION. The central idea of geographic capitation is that a single entity would combine the functions of a Medicare intermediary and carrier and that Medicare would treat that entity as if it were a capitated system which had enrolled all Medicare beneficiaries in the region. The effect would be to bring

Medicare the advantages of dealing with capitated entities long before that could be accomplished if it were necessary to enroll all beneficiaries in HMOs or CMPs.

Beneficiaries would retain the right to continue to participate in traditional Medicare, including the opportunity to enroll in independent HMOs and CMPs which could deal directly with HCFA. But in addition, the underwriter would offer beneficiaries one or more alternative managed care plans which would be expected to be more efficient than traditional Medicare. In order to attract beneficiaries into the alternative systems, the underwriter would have to offer beneficiaries lower costs, expanded benefits, or broader coverage, since the beneficiaries could otherwise either continue in or shift back to traditional Medicare or to HMO/CMPs independent of the underwriter. The underwriter could design these alternative plans with all of the efficiencies of HMOs and CMPs and might even be allowed to offer alternatives which did not fall within current HMO/CMP guidelines.

An underwriter would have a target budget for its geographic region, probably based on a capitated calculation, and would be at some level of risk for any difference between actual outlays and the target. In all likelihood, this risk would be shared between Medicare and the underwriter using a negotiated formula. The Grace Commission (President's Private Sector Survey 1983) suggested that the incentives in such a system would result in vigorous competition for the privilege of becoming a Medicare carrier and/or intermediary.

After careful review of the advantage of the geographic capitation concept, HCFA has determined that the concept would be anticompetitive if large insurers, already a dominant force in their market, could obtain monopoly control over the Medicare program. A geographic underwriter would have important advantages if it also

wrote most of the "Medigap" (see chapter 5) policies in the State. Such an underwriter could coordinate the Medigap policies with its alternative plans to produce a highly efficient integrated system.

Clearly, too, a geographic underwriter which controlled a significant portion of other health insurance business in the State could assume a controlling position if it combined the two market segments. Critics of geographic capitation have argued that this controlling market position would be anticompetitive and would require states and Medicare to regulate the geographic underwriters like utilities instead of letting the market control them. The geographic underwriter would have access to data and contact with beneficiaries which would make entry into the market very difficult for small capitated entities.

Critics further argue that it would be almost impossible for an outside competitor to win a Medicare contract away from a geographic underwriter which had assumed this dominant position.

9. Expanded Choice. The Administration's Private Health Plan Option (PHPO) is designed to give both Medicare beneficiaries and health-care providers the option of participating in Medicare through private health plans.

a. Design. The voluntary proposal has a number of innovative features:

(1) The beneficiary would retain full freedom to remain within traditional Medicare.

(2) Employers, as well as health care providers, would be eligible to receive the Federal lump-sum monthly payment.

(3) All participating plans must meet certain minimum requirements on benefits, financial solvency, quality and other relevant criteria.

(4) The organization could charge a supplementary premium for supplementary benefits.

(5) In exchange for the monthly payments, the Private Plan assumes responsibility for ensuring that its Medicare enrollees receive all medically necessary covered services. Within broad constraints set by the Federal Government, an approved plan could determine its own method for paying physicians and hospitals, for controlling use and for ensuring quality.

b. The Usefulness of Expanded Choice Systems. The HCFA Office of Research and Demonstrations is building on this proposal to test the opportunities for expanded consumer and provider choice. In contrast to geographic capitation, an expanded choice system is not intended to bring all beneficiaries in a region under

capitation. Instead, it is specifically designed to increase flexibility and efficiency in specific situations and to increase the number of entities eligible to receive capitated payments.

(1) One situation in which expanded capitation opportunities might be useful is for retirees who retain health benefits through their previous employer. Here it may be strongly in the interest of both beneficiary and employer to integrate the Medicare contribution into the employer's health plan in order to provide the most efficient and extensive coverage for the beneficiary.

(2) Expanded consumer and health care provider choice might also provide important flexibility for beneficiaries who wanted a somewhat different benefit design--for example, beneficiaries who would be willing to trade a somewhat higher deductible for long-term care coverage.

(3) A beneficiary who wished to enroll in a capitated system with an indemnity payment structure would be able to do so under this system. This is currently difficult unless the beneficiary can find a Medigap policy tailored to his needs.

(4) Finally, an expanded choice system would provide an opportunity for those who are concerned as to the potential impact of a voluntary system on a national basis while retaining the full protection of current Medicare for beneficiaries who did not wish to join capitated delivery systems under an expanded choice system.

c. Limitations of the Expanded Choice Systems. Any voluntary system has two kinds of limitations:

(1) It does not resolve the basic problems of adverse selection which were described above in the discussion of AAPCC and which are the target of current HCFA refinement research. These problems are, of course, not specific to a voluntary capitation program: they are common to all forms of capitation and even, as discussed in the last section, present problems for geographic systems which may be adversely affected.

(2) Some beneficiaries may have difficulties coping with the choices presented under an expanded consumer choice program; on the other hand, these individuals are protected by the continued availability of traditional Medicare.

10. BENEFICIARY IMPACT. Beneficiaries are remarkably well protected under the current regulations for CMPs and HMOs. They may be charged a supplementary premium, which has two parts--one part cannot be greater than Medicare's estimate of deductible and coinsurance payments corresponding to the AAPCC; the other part cannot be greater than an actuarially rated amount for services which are included in the CMP/HMO benefit package but which are not part of Medicare's standard benefit package.

To date, payment rates from Medicare to capitated systems have been sufficiently favorable so that the capitated systems have generally been able to provide additional benefits or charge lower copayments than would have occurred in traditional Medicare. But this cannot be expected to continue indefinitely and

present rules allow capitated systems to require additional payments from beneficiaries. Medicare's payments may shrink relative to the actual costs of service by capitated systems if new methods of calculation are introduced; a similar shrinkage might occur if Medicare's average outlay for noncapitated care were to decrease relative to market costs because of an extended freeze on noncapitated payments. Neither of these changes, however, should produce beneficiary liability problems comparable to those discussed in chapters 3 and 5; a decline in the number of capitated systems available to Medicare beneficiaries might occur if Medicare's capitated payment rates decreased sharply.

11. DEMONSTRATIONS. The HMO/CMP regulations have put a major change in motion, and it will be a few years before its consequences can be clearly seen. HCFA plans to further support this movement toward capitation through demonstrations testing an expanded consumer choice network. This network will build on the features of the voluntary voucher plan proposed by the Administration. It will offer opportunities for indemnity insurers, PPOs, and employers not currently eligible for capitation contracts with HCFA. It will also focus on increasing awareness and understanding of beneficiary choices.

12. SUMMARY. Capitation does well in terms of the three overall goals for physician payment reform: control Medicare outlays, maintain access to quality care, and discourage transfer of burdens to beneficiaries. Capitation rates can be

controlled and capitation is a proven money-saver; there is no substantial evidence that capitation limits quality or access; and current capitation systems protect beneficiaries well.

In terms of the objectives defined at the end of Chapter 1, HMO/CMPs and expanded consumer choice are powerful strategies for reforming Medicare's physician payment process. The prospects for controlling Medicare expenditure growth are excellent, both directly through controlling payments and indirectly through incentives for efficiency. Experience to date is that HMOs compete for enrollees by offering packages which actually reduce beneficiary liability; in any case, the beneficiary is better protected from liability under capitation than under fee-for-service. Continuity of care is another advantage of capitation. In addition, access and quality under capitation appear equal to that within the traditional Medicare program.

As outlined above, these systems are clearly compatible with the present health care system provided traditional Medicare is retained as an option. Although Medicare does not function directly as an agent for the beneficiary, a program which supports capitated systems appears to stimulate more attractive choices for beneficiaries. HMO/CMPs and expanded consumer choice synergize with the demands which other purchasers of health insurance and health care are making for more economical sources of care and more active insurors. Medicare's role in this market will both stimulate and benefit from the demands of other purchasers. Medicare serves as a prudent agent in the purchase of a benefit package, a simpler and more powerful role than seeking to specify the price and purchase conditions of every service rendered. At the same time, Medicare continues to make the

coverage, basic benefit, and overall payment decisions. Finally, the idea of paying for care on a capitated basis is fundamentally reasonable from a clinical perspective, even though it is clear that further refinements in the AAPCC may be desirable.

The TEFRA regulations for HMOs and CMPs have given a very strong stimulus to conventional capitation systems; data is not yet available to indicate that further steps are necessary, but vigorous monitoring of developments will be necessary. Continued expansion of consumer choice is an important approach to bringing the Medicare program to a fully-capitated system without either disrupting the fabric of physician-patient relationships or requiring disruptive changes in the organization of health care providers.

CHAPTER FIVE

PREVENTING SHIFTS OF THE BURDEN OF COST CONTAINMENT TO BENEFICIARIES

This chapter responds to Congress's mandate for "recommendations in sufficient detail to serve as the basis for legislative action which Congress can take to assure that any burden of effectively constraining the growth of costs in the Medicare Part B program, which Congress intends to be borne by providers and physicians, is not transferred (in whole or in part) so as to become an additional burden on Part B beneficiaries in the form of increased out-of-pocket expenses or reduced access to needed physician care." (P.L. 98-369, sec. 2306). Section 1 examines the current structure and magnitude of beneficiary cost; Section 2 reviews the impact of the physician fee freeze on beneficiary cost; Section 3 describes the MPP program and the overall issue of assignment; and Section 4 analyzes the findings and concludes that current evidence does not indicate a need for legislation to protect beneficiaries against the cost shifts which concerned Congress.

1. THE STRUCTURE AND DISTRIBUTION OF BENEFICIARY COST. Part B beneficiary cost is the sum of premiums, deductibles, coinsurance, and, if the claim is unassigned, the difference between the billed charge and the amount Medicare approves.

Chapter 1 described the rise of Part B beneficiary cost and cost per enrollee from 1975 to 1985. Table 1.1 shows that total beneficiary cost rose 13.7 percent annually (not adjusting for enrollment increases), but that the beneficiary's share of the total cost of covered services fell from 64.8 percent to 47.0 percent. Along with the

change in the magnitude of beneficiary cost have come significant changes in the composition of that cost. Part B premiums constituted 27.7 percent of the total cost of covered services in 1975 and 16.4 percent in 1985; excess of physician bills over approved charges was 8.9 percent of beneficiary cost in 1975 and 7.9 percent in 1985. The government share of the total cost of covered services increased from 35.2 percent in 1975 to 53.0 percent in 1985.

We do not know how much beneficiaries actually pay. Some physicians may not actually collect coinsurance and deductibles in some situations even though they bill for them. The number of physicians who actually collect the amount by which their charge exceeds the charge accepted by Medicare is unknown. The picture of beneficiary cost is further complicated by "Medigap" insurance and by Medicaid, which pay part or all of beneficiary cost.

About two-thirds of Medicare beneficiaries own "Medigap" policies, which commonly cover hospital deductibles and coinsurance for physician services, may cover Part B deductibles but seldom cover the excess of physicians' charges over Medicare allowed charges (Tables 5.2 and 5.3). Medigap policy ownership is concentrated in the more affluent elderly; and Medigap policies rarely cover charges from non-acceptance of assignment, which is concentrated in those with highest liabilities. Thus, Medigap provides substantial dollar protection, but that protection is uneven and weakest for those with lower income and higher liabilities. Medicaid provides almost complete protection against out-of-pocket cost for the very poorest.

2. BENEFICIARY COST DURING THE LAST (2) YEARS. The need for beneficiary protection against cost shifting is best evaluated by looking at whether these shifts

have actually occurred since Congress asked for this report. Table 1.1 shows that the beneficiary share of cost for Part B services decreased in 1985 to 47 percent, an historical low, while the Government's share increased to 53 percent.

a. VOLUME AND MIX OF SERVICES. Both the outlay data reviewed in Chapter 1 and the more detailed analysis in the Appendix suggest that the volume and mix of services have continued to increase under the freeze at about the rate which preceded the freeze. We have already argued that capitation is the only effective way to restrain this kind of growth.

b. CHARGES. Growth in charges for individual services has been constrained by the fee freeze, which forbade physicians to raise charges unless they agree to accept assignment. We cannot predict what will happen when such constraints expire, but historically, "catchup" increases usually occur after freezes are lifted.

c. ASSIGNMENT. Acceptance of assignment grew so rapidly from 1983 to 1985 (Table 1.9) that beneficiary cost from unassigned claims did not increase (Table 1.1); some of this growth appears to have resulted from the MPP program. From mid-1985 to the present, the rate of growth in acceptance of assignment has leveled off, as has the number of MPPs (Table 5.4). Long-term trends for the MPP are unpredictable because of program changes legislated in the Consolidated Omnibus Budget Reconciliation Act (COBRA) in April 1986, and in the Omnibus Budget Reconciliation Act (OBRA 86) in October 1986.

Thus, the burden of cost containment during the freeze was not transferred to beneficiaries, but the low growth of beneficiary cost might be attributable to a

freeze on unassigned charges (which will expire at the end of 1986) and a rapid increase in the assignment rate (which peaked in mid-1985).

3. ASSIGNMENT AND THE BURDEN OF COST CONTAINMENT. The preceding analysis indicates that the willingness of physicians to accept assignment is an important determinant of whether Medicare costs will be transferred to beneficiaries or will fall upon physicians. This conclusion leads to examining patterns of acceptance of assignment and the impact of nonacceptance of assignment.

a. PATTERNS OF ACCEPTANCE OF ASSIGNMENT. Assignment rates vary among specialties (Table 5.7), but variations between specialties are quite modest compared to variation across States (Table 5.8). Interstate variations make national averages difficult to interpret, because so few States are like the average. In 1982, when assignment was accepted on 52 percent of charges (not claims) nationwide, seven States had assignment rates above 70 percent and 15 had rates below 35 percent. While the national average rose from 47.2 percent to 51.8 percent between 1975 and 1982, assignment rates actually dropped in 14 States (McMillan et al. 1985). The net assignment rates in Table 5.9 are not precisely comparable to those in Table 5.8, but indicate that the pattern of extreme variation continues into 1985.

The factors affecting the physician's decision to accept assignment are not well understood, despite substantial research data (Muller and Otelsberg 1979, Rice 1982, Rice and McCall 1982a, McMillan et al. 1985). A typically confusing finding is that the submitted charge has almost the same relationship to the Medicare approved charge whether or not physicians accept assignment.

Historically, assignment appeared to rise when approved charges were closer to submitted charges, but the recent rise occurred despite the freeze.

Chapter I.2.c reviewed some possible reasons for increasing acceptance of assignment. In evaluating the risks to beneficiaries from nonacceptance of assignment, it is important to know whether physicians accept assignment in a pattern which protects those with the highest bills and those with the least ability to pay. Available data suggest that while there are trends in this direction, they do not provide substantial protection for those with high liabilities. Table 5.6 shows that most beneficiary characteristics associated with high cost (disability, age) or with low income (race, age) are also associated with high assignment rates. But most of this association results from the fact that physicians must accept assignment for Medicare beneficiaries who are also receiving Medicaid, and those beneficiaries tend to be old, poor, disabled, and nonwhite.

b. THE IMPACT OF ACCEPTANCE/NONACCEPTANCE OF ASSIGNMENT. As Table 1.1 shows, physician nonacceptance of assignment creates less than a third of beneficiary cost (if premiums are omitted), but Table 5.5 shows that this burden is very unevenly distributed among beneficiaries. While the cost resulting from non-acceptance of assignment creates 28.5 percent of total expense for beneficiaries with allowed charges of less than $1,500, nonacceptance of assignment creates 53.1 percent of total expenses for beneficiaries with total allowed charges of more than $1,500 (unpublished 1982 data). Assignment rates rise with total allowed charges (Ferry et al.1980), but the trend is weak and non-acceptance of assignment creates the majority of expenses for those with the highest liabilities. Thus, more general acceptance of assignment might protect those with highest liabilities,

but the actual effect of the recent rise from 54 to 69 percent acceptance of assignment is not known.

c. THE PARTICIPATING PHYSICIAN PROGRAM. The MPP system, created by the Deficit Reduction Act of 1984, permits physicians who agree to accept assignment on all Medicare bills to identify themselves as MPPs and to receive certain other advantages in billing and in future fee updates. The MPP program enrolled about 30.4 percent of physicians in October 1984 and about 28.4 percent of physicians in October 1985. COBRA changed rules for MPPs and physicians were allowed to change their decision about participation during April 1986 covering the period May to December 1986. For 1987, participation grew to 30.6 percent of physicians. In the first 6 months after enrollment in October 1985, MPPs accounted for 35.1 percent of covered physician charges to Medicare beneficiaries, but this rose to 37.2 percent of covered charges during the following 9 months. This shift may represent a larger number of services to a constant group of beneficiaries or may show that a modest number of beneficiaries moved from non-MPPs to MPPs.

d. MAINTAINING THE PHYSICIAN'S FREEDOM TO ACCEPT/NOT ACCEPT ASSIGNMENT. Modifying the physician's freedom to accept/not accept assignment means mandating that the physician must accept assignment under some or all circumstances. The Administration is firmly opposed to all so-called mandatory assignment options because they limit the freedom of the beneficiary and the physician to agree on a charge for the service rendered. Although there is no conclusive evidence that any of these approaches would limit beneficiary access to care, the possibility is real. In the recent National Opinion Research Center survey

of physician practices, 18.2 percent of self-employed physicians who now treat Medicare patients said that they would not treat Medicare patients if assignment were mandatory (unpublished HCFA data). And though there have been no reports of access barriers resulting from mandatory assignment for independent laboratories, the situation may well be very different for physician services. If physicians do not treat patients when assignment is mandatory, Medicare beneficiaries would find themselves either without care or burdened with the entire cost of their care. Finally, the Administration believes that mandatory assignment would reduce the free competition which is necessary for setting efficient prices and would ultimately diminish the efficiency of the health care system.

4. CONCLUSION. The transfer of burdens to beneficiaries which Congress feared did not occur under the freeze. Beneficiary costs grew less rapidly than program costs because of the increase in acceptance of assignment and because of the freeze on charges. Beneficiary costs may not continue to grow less rapidly than program costs, particularly if physicians increase their fees to make up for charge increases prevented by the fee freeze.

If physicians respond to the end of the freeze by "catchup" increases in their charges, beneficiary costs may increase. The increasing volume and intensity of services also creates a long-term coinsurance and premium burden on all beneficiaries, which results not from physicians shifting the burden of cost containment but from failure of restraints on per-service payments to contain total costs.

The Administration opposes mandatory assignment. Relative to mandatory assignment, we prefer the participating physician program, which is voluntary and promotes competition and beneficiary choice in the marketplace. The participating physician program is therefore preferable to mandatory assignment as a way to provide beneficiary financial protection.

In summary, during the freeze the beneficiary's percentage share of total costs actually decreased, and there was no evidence of shifting of the burden of cost containment from physicians to beneficiaries. In light of these trends and because of our commitment to physician freedom of choice, any steps toward mandatory assignment are ill-advised. With the expiration of the freeze, the subsequent leveling off of assignment rates followed by a recent rise, it is not possible to predict future patterns, so careful monitoring of these trends seems appropriate.

Table 5.1

Ownership of "Medigap" policies: Six states, 1982

Characteristics	CALIF n=416	FLOR n=377	MISS n=475	NJ n=381	WASH n=418	WIS n=389
All sample members[1]	76.9%	82.3%	69.2%	76.1%	81.4%	80.3%
Sex						
Male	77.5	80.9	65.1	76.6	80.5	78.3
Female	76.5	83.5	72.3	75.8	82.1	81.7
Age						
65-69	78.9	83.3	70.3	81.1	85.4	79.7
70-74	80.4	82.7	68.3	76.7	80.5	82.5
75 and over	72.3	81.1	68.9	71.1	78.3	79.4
Race						
White	78.8	85.4	79.5	78.8	81.4	81.1
Nonwhite	58.6	22.0	38.0	43.5	82.1	33.8
Education						
0-8 years	65.6	70.6	54.6	73.4	77.1	76.4
9-12 years	77.9	84.3	76.4	77.6	79.9	83.0
13 years & over	84.6	91.6	88.5	84.2	87.5	87.4
Marital status						
Married	79.7	87.3	71.9	79.8	83.7	82.5
Not Married	72.7	74.4	65.8	72.4	78.1	78.2
Income						
Less than $5,000	55.9	62.3	60.4	56.2	68.0	68.4
$5,000-$9,999	71.8	80.1	70.4	78.2	76.6	84.9
$10,000-$19,999	82.4	89.8	84.8	80.7	90.0	86.0
$20,000 and over	91.6	94.8	93.2	91.5	93.7	98.3
Health status						
Excellent	77.4	85.4	81.5	81.0	80.2	80.5
Good	80.5	85.5	72.3	78.2	83.0	81.1
Fair	73.5	80.1	66.9	71.7	83.3	79.5
Poor	60.4	62.5	51.9	61.2	63.0	78.9

[1]Proportion of sample owning at least one supplemental health insurance policy

SOURCE: Rice, T. and McCall, N. 1984, table 1: The Extent of Ownership and the Characteristics of Medicare Supplemental Policies, Inquiry. 22:188-200, Summer 1985.

Table 5.2

"Medigap" policy coverage characteristics for physician services: Six states, 1982

Characteristics	CAL n=104	FLOR n=97	MISS n=128	NJ n=114	WASH n=149	WIS n=121
Initial deductible						
Complete	28.0	14.0	75.6	78.8	55.6	62.6
Percentage	0.9	0.9	7.7	0	0.4	13.5
After additional deductible	0	0	0	0	7.6	0
None	71.1	85.1	16.7	21.2	36.4	23.9
Coinsurance						
Complete	95.6	100	96.3	100	98.5	90.3
Partial	4.4	0	3.7	0	1.5	9.7
None	0	0	0	0	0	0
Reimbursement schedule						
Fixed fee schedule	3.6	1.1	13.9	1.4	0.7	1.7
Medicare CPR	81.8	84.1	59.4	95.2	62.2	66.0
Insurance company UCR	14.6	14.8	24.7	3.4	32.0	26.3
Actual charge	0	0	2.1	0	5.1	6.0

SOURCE: Rice, T. and McCall, N. Table 4: The Extent of Ownership and the Characteristics of Medicare Supplemental Policies, Inquiry. 22:188-200, Summer 1985.

Table 5.3

Medicare participating physicians and suppliers by specialty, October 1984 and 1985

Specialty	FY 1986 Participation Percent	FY 1985 Participation Percent
General practice	23.6	27.3
General surgery	34.5	33.9
Otology, laryngology and rhinology	25.1	24.6
Anesthesiology	21.7	21.1
Cardiovascular disease	38.8	35.6
Dermatololgy	37.8	34.0
Family practice	27.1	25.5
Internal medicine	31.1	32.5
Neurology	33.2	34.8
Obstetrics-gynecology	30.5	29.1
Ophthalmology	28.7	27.3
Orthopedic surgery	38.3	29.0
Pathology	37.7	39.6
Psychiatry	27.8	30.0
Radiology	39.5	41.3
Urology	29.0	27.8
Nephrology	46.2	50.8
Clinic or other group practice-not GPPP	35.4	33.8
Other medical specialties	28.3	32.4
Other surgical specialties	12.7	18.2
Chiropractor	23.8	25.4
Podiatry and surgical chiropody	31.8	38.2
Optometrist	48.2	44.0
Other limited license practitioners[1]	33.8	36.8
Independent laboratory	36.3	28.4
Durable medical equipment suppliers	18.7	22.7
Ambulance service suppliers	38.6	28.6
Miscellaneous suppliers[2]	22.9	22.5
Grand total	27.7	29.4
Total physicians	27.9	29.8
Total limited license practitioners	32.2	34.0
Total suppliers	23.0	23.8

[1]Other limited license practitioners are audiologists, psychologists and physical therapists.
[2]Miscellaneous suppliers are orthotists, prosthetists, and portable x-ray suppliers.

NOTE: Special data collection from regional offices, Health Care Financing Administration.

SOURCE: Bureau of Program Operations, Health Care Financing Administration: unpublished data.

Table 5.4

Participating Physicians by State: U.S., FY 1985 - FY 1986

State	FY 86 Participation Number	FY 86 Participation Percent	FY 1985 Participation Percent
Alabama	2,708	54.4	54.4
Alaska	61	10.4	09.9
Arizona	935	15.4	18.3
Arkansas	1,543	45.2	45.6
California	16,655	30.0	31.0
Colorado	908	28.1	38.9
Connecticut	1,181	22.2	25.4
Delaware	456	23.9	34.3
District of Columbia	2,348	30.5	53.3
Florida	5,960	25.7	26.0
Georgia	3,322	33.1	34.0
Hawaii	783	20.6	18.2
Idaho	155	11.0	12.7
Illinois	4,572	23.1	24.2
Indiana	1,091	18.2	19.4
Iowa	1,714	29.7	34.7
Kansas	1,841	45.4	53.4
Kentucky	2,101	24.3	23.2
Louisiana	836	18.8	28.8
Maine	846	35.4	35.2
Maryland	1,876	30.4	30.4
Massachusetts	5,361	48.1	48.2
Michigan	7,627	44.0	44.2
Minnesota	1,889	18.5	18.6
Mississippi	584	19.1	20.4
Missouri	3,711	35.2	34.4
Montana	266	24.3	18.9
Nebraska	477	20.0	25.0
Nevada	514	21.7	36.4
New Hampshire	403	26.9	27.2
New Jersey	2,085	18.0	20.1
New Mexico	460	17.7	48.0
New York	8,664	20.8	22.1
North Carolina	3,503	39.1	41.5
North Dakota	163	10.9	10.9
Ohio	5,552	21.7	23.6
Oklahoma	927	13.8	13.7
Oregon	834	18.5	17.4
Pennsylvania	17,351	50.8	52.0
Rhode Island	831	46.7	46.2
South Carolina	653	17.9	16.5
South Dakota	98	08.0	08.3
Tennessee	1,234	21.1	26.9
Texas	6,298	19.7	20.4
Utah	784	29.3	32.4
Vermont	398	41.5	42.1
Virginia	2,133	29.6	29.5
Washington	2,179	23.6	27.7
West Virginia	1,082	22.9	23.6
Wisconsin	2,608	31.0	35.4
Wyoming	130	18.3	26.6

SOURCE: Bureau of Program Operations, Health Care Financing Administration: unpublished data from Medicare Participating Physicians and Supplier Fact Sheet.

Table 5.5

Medicare: Assignment rates on physician and related charges for services to aged and disabled enrollees by age, sex, and race: United States, 1975 and 1982

Age, Sex and race	Total Charges 1982 (millions)	Percent of Charges Assigned 1975[1]	1982	Percent Change 1975-1982
		Aged		
U.S. total	$17,607	47.2	51.8	9.8
Age				
65-69	4,322	44.1	47.3	7.3
70-74	4,612	45.0	50.5	12.2
75-79	3,884	47.5	51.6	8.6
80-84	2,598	49.4	53.8	8.9
85 or over	2,190	57.7	61.1	5.9
Sex				
Males	7,567	47.0	50.6	7.7
Females	10,040	47.3	52.6	11.2
Race				
White	15,754	45.0	49.3	9.6
Other races	1,390	79.3	79.9	0.8
		Disabled		
		1976[2]	1982	1976-1982
U.S. total	$2,245	63.6	69.9	9.9
Age				
Under 25	58	84.3	88.7	5.2
25-44	455	75.5	80.0	6.0
45-64	1,733	60.2	66.6	10.6
Sex				
Males	1,270	64.6	69.7	7.9
Females	975	62.2	70.2	12.9
Race				
White	1,801	59.4	66.3	11.6
Other races	397	87.7	86.8	-1.0

[1]Data for California were incorrectly coded and have been omitted from U.S. total.
[2]Similar data for 1975 unavailable by age, sex, and race.

SOURCE: McMillan, Lubitz, Newton, 1985, Table 3: Trends in Physician Assignment Rates for Medicare Services 1968-1985, Health Care Financing Review. 7(2):59-75, HCFA Publication No. 03220. Winter, 1985.

Table 5.6

Assignment rates and relationship of reasonable charges to billed charges[1]
Medicare Part B: 1982

Physician or Supplier	Total charges	Assignment rate	Reasonable charges as % of billed charges	
			assigned	unassigned
01 General practice	$1,198,659,800	45.77%	74.63%	76.59%
02 General surgery	1,740,751,760	53.28	71.67	75.20
03 Allergy	26,109,140	37.66	76.15	76.02
04 Otol, laryn, rhinol	203,153,280	42.15	71047	74.22
05 Anesthesiology	989,870,020	43.92	62.99	63.52
06 Cardiovascular	804,329,900	55.61	76.03	77.07
07 Dermatology	237,687,400	48.42	77.89	81.45
08 Family practice	747,745,440	48.42	74.10	75.96
10 Gastroenterology	243,552,660	61.86	78.20	79.03
11 Internal medicine	3,457,701,240	49.71	75.84	77.42
13 Neurology	224,913,280	54.47	73.97	75.07
14 Neurological surgery	217,305,580	53.25	65.23	68.49
16 Ob and gynecology	126,839,840	43.50	70.61	74.93
18 Ophthalmology	1,570,014,868	42.01	76.55	81.04
20 Orthopedic surgery	1,043,297,120	44.07	71.78	73.48
22 Pathology	220,925,380	65.55	76.33	76.40
24 Plastic surgery	100,032,500	54.49	63.02	69.50
25 Physical medicine	51,018,620	78.26	74.27	75.10
26 Psychiatry	244,237,480	69.19	68.69	65.15
28 Proctology	38,614,560	44.37	72.17	73.34
29 Pulmonary disease	170,443,760	59.60	75.77	75.73
30 Radiology	1,216,541,200	61.19	78.09	79.11
33 Thoracic surgery	583,560,560	57.85	75.12	76.93
34 Urology	742,974,620	45.20	73.01	76.73
36 Nuclear medicine	16,798,400	72.92	65.25	78.68
37 Pediatrics	19,061,100	63.38	70.89	73.16
38 Geriatrics	1,660,680	31.94	78.65	81.12
39 Nephrology	199,057,760	87.55	71.69	77.40
40 Hand surgery	2,389,740	37.85	72.53	71.62
49 Miscellaneous	71,383,620	69.01	78.71	75.50
70 Clinic	1,084,469,820	51.77	73.95	76.30
99 Unknown	95,292,880	87.50	71.93	76.23
Special osteopaths[2]	88,516,020	63.19	72.52	73.86
Total MD and DO	17,793,301,800	51.29	73.89	75.90
19 Oral Surgery	8,482,360	39.06	65.86	72.59
35 Chiropractor	121,253,720	29.22	76.29	79.64
48 Podiatry	329,949,740	66.65	72.49	77.30
59 Ambulance	322,936,300	70.40	80.98	78.63
69 Independent laboratory	313,431,240	75.23	79.99	81.58
Other Suppliers	1,209,146,520	84.22	84.79	79.83
Total Suppliers	2,305,155,000	75.71	81.99	79.28
Unknown	4,257,080	74.82	79.98	86.80
Total	$20,102,770,500	54.07%	75.16%	76.10%

1 Table excludes combined billings and physicians costs included in hospital bills.
2 Special osteopaths represents approximately 2,400 osteopathic specialists and not total osteopathic charges.

NOTES: Otol, laryn, rhinol means otology, laryngology, and rhinology. Ob means obstetrics. MD means Doctor of Medicine. DO Means Doctor of Osteopathy.

SOURCE: Bureau of Data Management and Strategy, Health Care Financing Administration: 1982 Medicare Part B data from the 1% Bill Summary File.

Table 5.7

State-by-state variation in Medicare assignment rates: Total charges and percent assigned for aged and disabled enrollees by state: United States, 1975 and 1982

Area of Residence	Total charges in millions	Percent of charges assigned		Percent change
	1982	1975[1]	1982	1975-1982
U.S. Total	$17,607	47.2[1]	51.8	6.9
Northeast	4,657	69.9	69.4	10.6
New England	674	64.9	71.3	10.4
Maine	64	72.6	72.6	.4
New Hampshire	51	52.3	53.3	1.6
Vermont	36	70.6	64.3	-23.1
Massachusetts	493	77.4	84.9	6.3
Rhode Island	69	61.6	67.0	6.6
Connecticut	362	31.3	44.6	43.6
Middle Atlantic	3,983	86.6	66.0	10.6
New York	1,854	67.7	83.6	6.3
New Jersey	676	62.3	66.0	7.1
Pennsylvania	1,061	68.1	78.1	18.4
North Central	3,864	36.7	48.3	33.3
East North Central	3,045	26.6	50.1	26.6
Ohio	604	26.6	35.6	34.6
Indiana	308	25.0	26.9	6.4
Illinois	750	32.2	38.5	22.7
Michigan	647	99.0	61.4	23.3
Wisconsin	335	35.9	32.9	- 7.9
West North Central	1,206	32.9	34.5	5.2
Minnesota	343	29.5	27.4	- 7.1
Iowa	309	25.8	28.9	10.6
Missouri	373	31.6	40.0	25.6
North Dakota	49	33.3	25.2	-24.1
South Dakota	44	19.6	17.0	-14.1
Nebraska	97	29.9	24.6	-19.9
Kansas	196	52.4	50.0	- 4.9
South	6,559	48.1	49.4	5.0
South Atlantic	3,005	43.6	47.4	9.2
Delaware	46	92.1	67.6	9.2
Maryland	393	57.2	99.6	22.0
Dist. of Columbia	62	99.9	75.5	6.7
Virginia	299	49.4	51.3	3.9
West Virginia	92	47.5	49.5	4.2
North Carolina	304	48.7	48.9	4.1
South Carolina	132	91.1	69.2	- 3.1
Georgia	311	53.2	55.2	3.6
Florida	1,510	34.5	37.7	6.3
East South Central	928	60.6	60.3	- .6
Kentucky	194	37.9	35.6	- 5.3
Tennessee	277	43.3	46.4	7.2
Alabama	253	90.1	60.4	.6
Mississippi	144	93.7	64.5	- 6.9
West South Central	1,715	49.0	49.1	2.3
Arkansas	197	52.2	57.0	9.2
Louisana	217	33.1	39.4	10.0
Oklahoma	205	31.2	32.0	2.6
Texas	1,099	54.2	53.4	- 1.5
West	3,629	1/	45.6	---
Mountain	739	37.4	39.6	3.2
Montana	51	22.9	24.0	9.2
Idaho	49	29.3	21.2	-19.4
Wyoming	16	30.3	25.6	-16.9
Colorado	199	49.9	43.5	-10.9
New Mexico	91	47.7	47.2	- 1.1
Arizona	240	27.6	33.2	19.4
Utah	92	41.0	43.9	7.1
Nevada	71	47.5	66.6	19.6
Pacific	2,891	1/	47.3	---
Washington	1,292	34.2	29.0	-18.1
Oregon	194	16.9	22.1	11.1
California	2,351	1/	51.7	---
Alaska	9	38.2	37.9	- .9
Hawaii	57	38.5	40.9	6.2

[1]1975 Data from California were incorrectly coded and have been omitted.

NOTE: --- means category not applicable. Unknown residence excluded.

SOURCE: McMillan, Lubitz, Newton, Table 4: Trends in Physician Assignment Rates for Medical Services: 1969-1985. Health Care Financing Review. 7(2):59-75, HCFA Publication No. 03220. Winter, 1985.

Table 5.8

Assignment rates by state and carrier: February 1985

Carrier	Assignment Rates Net Claims
Total	**67.8**
Boston Region	**80.8**
Connecticut General	66.2
Maine-Mass. B/S	78.2
Massachusetts B/S	89.5
New Hamp. -VT B/S	60.0
New Hampshire	57.3
Vermont	64.7
Rhode Island B/S	92.2
New York Region	**68.8**
New Jersey-Prudential	63.4
N.Y.-Binghamton B/S	73.8
N.Y.-New York B/S	70.7
New York-Group Health	58.1
Puerto Rico B/S	79.7
Puerto Rico	79.7
Virgin Islands	41.7
Philadelphia Region	**80.6**
Maryland B/S	79.0
Pennsylvania B/S	84.7
Delaware	80.5
District of Columbia	77.8
Pennsylvania	86.8
Virginia-Travelers	66.8
West Virginia-Nationwide	71.2
Atlanta Region	**65.0**
Alabama B/S	80.1
Florida B/S	60.6
Georgia-Prudential	73.2
Kentucky B/S	61.0
Mississippi-Travelers	70.6
North Carolina-Prudential	64.0
South Carolina B/S	61.2
Tennessee-Equitable	64.4
Chicago Region	**66.9**
Illinois B/S (HCSC)	63.2
Indiana B/S	57.4
Michigan B/S	87.8
Minnesota B/S	38.5
Minnesota-Travelers	61.3
Ohio-Nationwide	58.4
Wisconsin B/S	58.8
Dallas Region	**63.6**
Arkansas B/S	72.2
Ark-La. B/S	62.6
New Mexico-Equitable	65.7
Oklahoma-Aetna	52.1
Texas B/S	64.4
Kansas City Region	**58.5**
Iowa B/S	51.7
Kansas B/S	73.4
Missouri B/S	74.8
Missouri-General American	52.7
Nebraska-Mutual of Omaha	39.4
Denver Region	**52.8**
Colorado B/S	63.3
Montana B/S	48.4
North Dakota B/S	37.8
North Dakota	40.2
South Dakota	34.9
Utah B/S	46.6
Wyoming-Equitable	45.9
San Francisco Region	**70.9**
Arizona-Nevada-Aetna	62.0
Arizona	58.5
Nevada	77.1
California B/S	68.4
California-Occidental	76.2
Hawaii-Aetna	62.8
Seattle Region	**46.5**
Alaska-Oregon-Aetna	42.3
Alaska	61.6
Oregon	41.7
Idaho-Equitable	35.0
Washington B/S	50.8
Chelan	30.3
Clallam	21.2
Cowlitz	48.1
Grays Harbor	61.5
King	51.2
Kitsap	50.6
Pierce	51.8
Skagit	29.3
Snohomish	45.3
Spokane	59.7
Walla Walla	30.7
Whatcom	52.0
RRB-Travelers	**55.6**
Commercials	
Aetna	54.9
Equitable	80.8
Nationwide	80.2
Prudential	66.1
Travelers (RRB-Excluded)	66.7

SOURCE: Health Care Financing Administration, Bureau of Quality Control: Part B Carrier Workload Report, March 1985.

REFERENCES

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APPENDIX

CHANGES IN VOLUME AND MIX DURING THE PERIOD OF THE FEE FREEZE

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I. INTRODUCTION

The Deficit Reduction Act (P.L. 98-369) imposed a 15-month freeze on the customary and prevailing charges for all physicians' services provided to Medicare beneficiaries, and on the actual charges made to Medicare patients by non-participating physicians. The Act also instituted a Medicare participating physician program.

During the 15-month period of the fee freeze, section 2306 (d) of the Deficit Reduction Act requires the Secretary to:

> "monitor physicians' services in order to determine any changes in the per capita volume and mix of physicians' services provided to beneficiaries under Part B of title XVIII of the Social Security Act, classified by participating physician and non-participating physicians, by assigned and non-assigned claims, by specialty, and by geographic area."

The Act requires that a report on changes monitored be provided to Congress prior to July 1, 1985. The Act also requires that:

> "such report shall include recommendations in sufficient detail to serve as the basis for legislative action which Congress can take to assure that any burden of effectively constraining the growth of costs in the medicare Part B program, which Congress intends to be borne by providers and physicians, is not transferred (in whole or in part) so as to become an additional burden on Part B beneficiaries in the form of increased out-of-pocket costs, reduced services or reduced access to needed physician care."

Reimbursement and participation/assignment options are contained in the main body of this report. This appendix contains the data and analysis of physicians' responses during the period of the fee freeze in terms of changes in the volume and mix of services provided. First, the context of the study is discussed, highlighting the many significant program changes that occurred during the study period. These changes make it difficult to separate responses to the freeze from responses to the other program changes. Then, potential responses of physicians to the freeze are identified. Finally, data on responses during the period of the freeze are presented and discussed.

II. THE CHANGING ENVIRONMENT AND THE CONTEXT OF THE STUDY

The Deficit Reduction Act imposed a 15-month freeze on Medicare's customary and prevailing charges for all physicians' services provided to beneficiaries. In addition, during the freeze non-participating physicians were not permitted to increase their actual charges to Medicare patients above the levels that they charged during the April to June 1984 quarter. Increases will not be recognized when customary and prevailing charges are updated and may cause non-participating physicians to be subject to civil money penalties and/or exclusion from Medicare for up to five years.

The Deficit Reduction Act also instituted a Medicare participating physician program. A participating physician is one who signs an agreement to accept assignment on all claims for services provided to Medicare patients for a 12-month period beginning on October 1 of each year. The claim-by-claim assignment option is retained for non-participating physicians. As incentives to participate, the statute provides for the dissemination of the names of participating physicians through directories and toll-free telephone numbers, improvements in electronic receipt of claims by carriers, and exemption from the freeze on actual charges. Although this exemption does not affect current reimbursements, increases in actual charges will be reflected in higher customary charges following the freeze.

The fee freeze and the participating physician program were implemented during a period in which there were more significant changes in the Medicare program than at any time since its enactment twenty years ago. These changes include:

- Implementation of the hospital prospective payment system (PPS),

- o "Rebundling" of non-physician services provided to hospital inpatients,
- o Changes in Medicare reimbursement for hospital-based physicians,
- o Implementation of a fee schedule and requirement of direct billing for clinical diagnostic laboratory services,
- o Changeover to a common procedure terminology and coding system, and
- o Increasing competition from the growing supply of physicians.

The interaction of these factors, in addition to the relationship between the participating physician program and the fee freeze, makes it very difficult to assess whether any observed changes in the volume and/or mix of services by physicians were in response to the freeze or to these other factors.

(A) The Hospital Prospective Payment System

The hospital PPS was initiated with individual hospitals' first cost reporting periods beginning on or after October 1, 1983. Because hospitals' accounting periods begin at various points during the year, of the 5,045 PPS-eligible hospitals, only 59 percent were covered prior to July 1, 1984, the effective date of the fee freeze, while another 32 percent of hospitals started on PPS on that date. The hospital PPS is being phased in over a four year period. To the extent that the phase-in effects hospitals, it may also have complementary effects on physicians' services.

The impact of hospital PPS on physicians needs to be emphasized. PPS contains incentives for hospitals to reduce both length of stay and ancillary services provided during the admission. Indeed, in FY 1984, length of stay for all Medicare

patients at short-stay hospitals declined by 9.0 percent compared with FY 1983. During the five year period prior to FY 1983, length of stay had declined annually at an average rate of 1.3 percent. It is estimated that length of stay will decrease by 7.7 percent in FY 1985. While this reduction in length of stay was anticipated as a result of PPS, a reduction in admissions was not. In FY 1984, short-stay hospital admissions decreased by 1.7 percent. This was the first time in the history of the program that admissions did not increase from the previous year. During the five year period ending in FY 1983, admissions had increased at an average annual rate of 4.4 percent.

Since prior research suggests that physicians bill for an average of one medical visit per day, shorter lengths of stay may mean fewer billings to Medicare for inpatient medical visits. Shorter lengths of stay might also mean fewer billings by physicians for ancillary services. The drop in admissions would also reduce physician billings for inpatient services. In addition, with a drop in admissions, a growing portion of procedures are being performed in outpatient settings.

Thus, the impact of the hospital PPS (fewer admissions, or slower growth in admissions, and reduced length of stay) might lead to increases in non-inpatient billings if physicians attempt to compensate for constraints on inpatient billings. However, if it is easier for physicians to increase volume in non-inpatient settings than in the hospital, an increase in non-inpatient billings might have occurred in response to the fee freeze in the absence of hospital PPS. Thus, if there is an increase in the volume, frequency and/or intensity of non-inpatient services, it may be difficult to distinguish whether an effect was due to PPS or to the fee freeze.

(B) Rebundling of Non-Physician Services

The regulations implementing hospital PPS contained a "rebundling" provision effective for services rendered on or after October 1, 1983. Prior to this change, physicians or suppliers could bill Part B for non-physician services furnished to hospital inpatients. Now, all non-physician services provided to Medicare hospital inpatients are covered in the DRG payment to the hospital. Separate billing to Part B for hospital inpatients for such items as pacemakers, intraocular lenses and laboratory tests performed by independent labs is not permitted.

If certain specialties previously had significant amounts of billings for such items (e.g., thoracic surgeons for pacemakers or ophthalmologists for intraocular lenses), this policy may have produced changes in the mix of services in the period preceding the physician fee freeze which would reflect shifts in billing patterns rather than changes in the mix of services actually provided. This complicates efforts to assess changes in the volume and mix of services provided in response to the fee freeze.

(C) Hospital-Based Physician Changes

Effective October 1, 1983, several changes were made in hospital-based physician reimbursement, coverage and billing policy. These included the establishment of a uniform definition of physicians' services and the elimination of combined billing. Physicians' services were defined to be those which "are personally furnished for an individual patient by a physician," which "contribute directly to the diagnosis or treatment of an individual patient" and "ordinarily require performance by a physician" (42 CFR 405.550b). Physician laboratory services include only those services which meet the definition of physicians' services and are "anatomical

pathology services; consultative pathology services;" or "services performed by a physician in personal administration of test devices, isotopes, or other material to an individual patient" (42 CFR 405.556). Clinical laboratory services rendered to hospital inpatients are excluded from the definition. Prior to this change, Medicare carriers did not uniformly enforce national policy regarding billing of clinical laboratory services. As a result, some carriers allowed clinical laboratory services to be billed as physicians' services while others did not. Data are not available about the extent of these practices.

Also, prior to the implementation of this regulation, hospitals were allowed to combine the bill for the professional and technical components of laboratory and radiology services on the HCFA 1453 billing form. Thus, the professional and technical components were not separately identified. These bills were submitted to the intermediary and paid for out of the Part A trust fund. At the end of the year, there was a reconciliation between the Part A and Part B trust funds through the cost report settlement process regarding Part B professional services submitted on 1453s. While firm data are not available, one estimate is that no more than 30 percent of radiologists, but a much larger percentage of pathologists, used the combined billing method. In addition to radiologists and pathologists, other physicians providing services in hospital outpatient departments may have utilized the combined billing arrangement. As a result, when analyzed on an individual physician basis, billings for prior periods will be understated.

Regulations effective on October 1, 1983, specified that the reasonable charge for radiology services "furnished to a hospital inpatient or furnished in a provider to a provider patient may not exceed 40 percent of the prevailing charge

for a similar service furnished in a nonprovider setting" (42 CFR 405.555). To the extent that this method results in a lesser reimbursement amount for provider based radiology services, radiologist billings may differ when comparing different time periods. As in the case of the "rebundling" of services, this change may have produced shifts in billing patterns during the period prior to the freeze rather than actual changes in the mix of services provided. Again, the comparisons that can be made to the freeze period are complicated.

(D) Laboratory Reimbursement Changes

Section 2303 of the Deficit Reduction Act, which became effective on July 1, 1984, established fee schedules for clinical diagnostic laboratory services performed by a physician or by a laboratory in a non-inpatient setting. It also mandated that only the entity or individual performing a lab test can bill for it. As a result of this so-called direct billing provision, physicians can no longer bill for lab services they do not personally perform. They are only allowed to bill a specimen collection fee for handling such laboratory tests. Prior to the Deficit Reduction Act, an estimated 40 to 50 percent of billings for lab services were done by physicians for services rendered by independent laboratories.

For tests performed by independent labs, payment is made on the basis of 100 percent of the fee schedule and assignment is required. A physician personally performing a lab test can also receive 100 percent of the fee schedule from the carrier when the claim is assigned. If assignment is not accepted, Medicare payment is based on 80 percent of the fee schedule, and the patient is responsible for 20 percent coinsurance.

Since a physician who does not furnish lab tests can only bill for specimen handling fees, the DEFRA direct billing change could produce effects similar to those of the "rebundling" and hospital-based physician policy changes. That is, the direct billing provision could result in changes in the mix of services, in this case during the period of the physician fee freeze, which reflect shifts in billing patterns rather than actual changes in the mix of services provided. This change could have a profound impact on the analysis of results.

In addition, the direct billing provision may also lead some physicians to set up labs in their own offices in order to bill for lab tests, which could lead to increased lab billings from these physicians. It is particularly difficult to distinguish whether such increases in the volume of laboratory tests are in response to the lab provision of DEFRA, or a way to offset revenue losses from the fee freeze.

(E) Conversions to HCPCS

In 1983, HCFA began the adoption of a common procedure terminology and coding system for all carriers to use. Known as the HCFA Common Procedure Coding System (HCPCS), it contains about 7,500 codes for physicians' services (which are the codes in the AMA's Current Procedure Terminology System) and about 2,500 codes for non-physician services. Medicare carriers implemented HCPCS at different times. Prior to 1984, eight carriers used HCPCS. During 1984, an additional 23 carriers began using HCPCS, while the remaining carriers adopted HCPCS during 1985.

The adoption of HCPCS makes it difficult to detect whether potential changes are in response to the change in coding systems or in response to the fee freeze. For

example, consider the case where a carrier previously recognized two codes for office visits. HCPCS contains six codes for initial office visits and six codes for follow-up office visits. In most situations, it would be impossible to distinguish whether changes in billings for these office visits were the result of "upcoding" in response to the fee freeze or in response to the change to HCPCS. These difficulties are highly significant since a likely response to the fee freeze is to upcode the reporting of a service for billing purposes.

(F) The Supply of Physicians

The supply of physicians in the U.S. has grown dramatically over the last twenty years and is projected to continue to grow into the 1990's. While in 1970 there were approximately 348,000 physicians in this country (168 per 100,000 population), by 1985, the supply had grown to 528,000 (220 per 100,000 population).

Because of this growth, there have been increasing pressures on physicians to compete for patients. This competition is causing changes in the structure of medical practice and has begun to restrain physician income. In recent years, the rate of growth in physicians' average income in some specialties has slowed or declined.

The level of competition in an area may have an impact on the participating physician program and the fee freeze. In areas of physician oversupply, there should be less reluctance to become a participating physician or to increase acceptance of assignment. Competition could also restrain the growth of extra-billing on unassigned claims. While pressures on physician income may lead to attempts to increase the volume and/or intensity of services provided to patients in

fee-for-service settings in order to maintain practice income, competition may restrict the ability to make such changes. It is not possible to separate these potential changes in volume/mix from changes in response to the fee freeze.

III. POTENTIAL RESPONSES TO THE FEE FREEZE

Physicians' responses to the fee freeze are affected by a number of factors such as the underlying demand for physicians' services by Medicare beneficiaries, the willingness of physicians to supply services to Medicare patients and the amount of competition in the area. Moreover, potential responses to the fee freeze may vary depending on physicians' decisions regarding the participating physician program. The relationship between the participation decision and potential responses to the fee freeze is extremely complex. While the purpose of this study is not to analyze factors underlying physicians' participation decisions, because of the close relationship between participation and the fee freeze, factors influencing a physician's decision to participate are briefly discussed first, and then responses to the freeze for participants and non-participants are discussed.

A. Factors Affecting the Participation Decision

Physicians' decisions about whether or not to sign Medicare participation agreements could have depended on a variety of factors including:

- The current relationship between Medicare's approved charge levels and the physician's actual charges, and the physician's expectations about this relationship in the future,
- The physician's previous assignment rates, the assignment rate in that physician's market, and the portion of the physician's practice that Medicare patients represent,
- Increases in Medicare caseload that might occur as a result of becoming a participant or alternatively the potential loss in Medicare patients from not participating,
- The physician's perception of the ease with which additional revenues can be generated through increasing the volume and mix of services provided to Medicare enrollees,

- o The income of the physician's patients, the percent who also have Medigap or Medicaid coverage, and other patient characteristics, and
- o The physician's philosophical attitudes toward the Medicare program, the Federal government and Medicare beneficiaries.

It is important to discuss the effect of major economic factors on participation. Consider the current relationship between Medicare's approved charge levels and the physician's actual charges, and the physician's expectations about this relationship in the future. If a physician's actual charges are generally above the Medicare approved charges, that physician has to forego the opportunity to bill beneficiaries for the difference between Medicare's approved charge and his actual charge if a claim is accepted on assignment. If the physician's actual charges are generally at or below the level of Medicare approved charges, then there is no comparable loss of revenue on assigned claims. However, physicians in the former category probably would lose revenue by accepting assignment only to the extent that the entire extra-billing amount was actually collected. Therefore, in evaluating the difference between Medicare's approved charges and the physician's actual charge, physicians may take into consideration their experience in collecting extra-billing amounts.

The physician's previous assignment rate may influence the participation decision. A higher prior assignment rate would mean less short-term revenue loss from not collecting extra-billing amounts. Lower prior assignment rates would mean greater short-term revenue losses due to foregoing collection of extra-billing amounts.

The physician is also likely to consider the potential increase in Medicare patients that could result from participation. Also, if other physicians in the area are likely

to participate, the physician has to consider the potential loss of his Medicare patients from not participating. Each of these effects becomes more important as the percent of a physician's practice represented by Medicare patients increases.

Physicians' decisions to participate may also depend on perceptions of the ease with which additional revenues can be generated by increasing the volume and changing the mix of services provided to Medicare patients. Physicians who believe that reduced revenue resulting from the loss of extra-billing opportunities can be offset by increasing the frequency of visits, fragmenting services and/or billing for more complex procedures may be more willing to participate than they would be otherwise.

Considering these major economic factors, a physician may have been more likely to participate if:

(a) The physician's actual charges are at or below Medicare approved charges, and the physician previously had generally accepted assignment. There would be limited short-term loss of revenue from participation, and the potential to increase Medicare caseload.

(b) The physician's actual charges are above Medicare approved charges, but the physician has a history of accepting assignment on most claims. Thus, the short-term loss of extra-billing opportunities for some claims could potentially either:

- o Be offset by the potential increase in Medicare caseload that could result from participating,
- o Be less than the loss in Medicare caseload that could result from not participating, or
- o Be offset by increasing the volume and/or changing the mix of services provided.

(c) The physician's actual charges are above Medicare approved charges, and the physician does not have a history of accepting assignment on most claims but:

- o The physician is in an area where there is increased competition and thus participation could potentially increase Medicare caseload or keep it from decreasing, and/or

- The physician believes that revenue lost due to participation could be offset by increasing the volume and/or changing the mix of services provided.

The freeze added another dimension to the participation decision. Participating physicians were allowed to increase their actual charges while the actual charges of non-participating physicians were frozen at the April to June 1984 base period level. Although the increase in actual charges for participating physicians does not translate immediately into higher revenues, these increases are factored into the calculation of new customary charges after the freeze. The value of being able to increase actual charges is significant if the physician's customary charges are below the prevailing charges in the area. If the physician's customary charges are at or above the prevailing charges, the physician would gain little from higher future customary charges since payment would be based on the prevailing charge.

B. Responses to the Freeze

The central issue regarding physicians' responses to the fee freeze is whether physicians can and do attempt to maintain the level of Medicare revenues that they would have received without the freeze. A major difficulty in examining responses to the freeze is that physicians may also desire to maintain the level of revenues that they would have received without the participating physician program. Thus, we are limited to examining the combined response to both the freeze and the participating physician program.

There are at least eight potential responses to the fee freeze. Some of these responses are the same for both participating and non-participating physicians. Others vary by participation status, while the remainder are unique to one status. Potential responses include:

- Changing the volume of services provided per enrollee,

- o Changing the percentage of Medicare patients in the practice,
- o Increasing the intensity of services provided and/or billed,
- o Fragmenting services for billing purposes,
- o Pursuing a more aggressive collection effort from patients,
- o Increasing submitted charges,
- o Decreasing acceptance of assignment, and/or
- o Increasing charges to non-Medicare patients.

(1) Changing the volume of services provided per enrollee. Both participants and non-participants might attempt to increase the volume of services provided to their Medicare patients. For example, they might attempt to increase the frequency of ambulatory visits, especially re-visits for patients with chronic conditions. Participating physicians might increase the volume of services per enrollee either in response to the freeze or to make up revenues lost as a result of the decision to participate.

The ability of physicians to change the volume of services provided is limited by various supply and demand factors in the market for physicians' services such as the number and growth of Medicare patients and their characteristics, trends in the non-Medicare patient market, the supply and growth of physicians and their characteristics, and the availability of alternative sources of care. Thus, the ability of physicians to increase the volume of services provided may vary substantially according to local market conditions.

The detection of volume changes due to the freeze is complicated because of changes that may have occurred in response to hospital PPS, to the direct billing provision for lab services, and to other program changes. For example, an increase

in the volume of ambulatory visits may be a response to the fee freeze or a response to the hospital PPS.

(2) Changing the percentage of Medicare patients in a practice. Participating physicians are likely either to want to maintain their current Medicare patients or, more likely, to increase the number of patients. However, non-participating physicians may respond to the freeze by limiting or reducing their dependence on Medicare patients. If Medicare patients are too large a share of their practice to make this strategy viable, non-participating physicians may have to increase acceptance of assignment in order to maintain their Medicare patients.

(3) Increasing the intensity of services provided and/or billed. Both participating and non-participating physicians might respond to the freeze by attempting to increase the intensity of services provided to Medicare patients. An increase in intensity might be reflected as a higher level of visit or the provision of more services per visit, such as more laboratory or diagnostic tests. Increases in intensity are different from increases in volume since the former do not necessarily involve more patient contacts. HCPCS contains six levels of follow-up office visits: minimal, brief, limited, intermediate, extended and comprehensive. Thus, this might be a relatively easy way for physicians to increase the intensity of services provided and/or billed.

It is difficult to separate genuine increases in the intensity of services from increases in intensity that represent "upcoding" of the same services in order to increase reimbursement. For example, would an increase in intermediate instead of brief office visits reflect upcoding or the actual provision of a higher level of service? Moreover, given the change to HCPCS that the carriers had been

undertaking during the pre-physician fee freeze period and the freeze period itself, it is difficult to separate responses to the new coding system from upcoding. In addition, detection of the provision of additional laboratory tests per visit is complicated by the direct billing and fee schedule provisions enacted in the Deficit Reduction Act. Still further, an increase in the intensity of visits provided to hospital inpatients may reflect a response to the fee freeze or it may be a result of the hospital PPS (i.e., only the relatively sicker patients are now treated on an inpatient basis).

(4) Fragmenting services for billing purposes. Both participating and non-participating physicians might respond to the freeze by fragmenting the reporting of services actually provided to Medicare patients. For example, physicians who previously included the interpretation of a bronchoscopy in the fee for the procedure might begin to separately bill for the interpretation of the test in addition to the procedure. However, detection of this potential response is complicated by the effects of the direct billing provision for laboratory tests enacted in the Deficit Reduction Act.

(5) Pursuing a more aggressive collection effort from patients. Both participating and non-participating physicians might respond to the freeze by intensifying collection efforts from Medicare patients. Participating physicians might be more aggressive in collecting Medicare cost sharing. Non-participating physicians could attempt to collect a higher proportion of their extra-billing amount. The effort that physicians devote to this activity would depend on their collection costs, the amount of cost-sharing or extra-billing not now collected and the potential revenues that might be obtained from such a strategy. It is not possible to detect from Medicare claims data whether this strategy has been pursued.

(6) Increasing submitted charges. Participating physicians might increase submitted charges more than they would have without the freeze in order to assure that their next customary charge would be at the maximum level possible (i.e., the prevailing charge adjusted by the economic index). This response could be an attempt to recoup the short-term revenues lost from foregone extra-billing on previously unassigned claims.

Medicare carriers' monitoring of non-participating physicians' compliance with the freeze on actual charges indicates that virtually all non-participating physicians had complied with the freeze during the October to December 1984 and January to March 1985 quarters. While DEFRA prohibited non-participating physicians from increasing their submitted charges above the level of actual charges made during the April to June 1984 base period (A-J 84), procedures for which no actual charge was made during that base period are not subject to constraint. Thus, non-participating physicians might increase their submitted charges for services that had not been provided during A-J 84. Where multiple codes for similar procedures permitted discretion, they might maximize the frequency of billing for these procedures. Thus, increases in submitted charges per user for non-participating physicians suggest changes in mix.

(7) Decreasing acceptance of assignment. In order to increase short-term revenues, non-participating physicians might decrease their acceptance of assignment, which would allow them to collect extra-billing amounts from beneficiaries from whom they had previously accepted assignment. Of course, this strategy might be counterproductive to the extent that decreasing acceptance of assignment encourages patients to switch to participating physicians or to non-participants who accept assignment.

(8) Increasing charges to non-Medicare patients. Both participating and non-participating physicians might respond to the fee freeze by increasing their charges to non-Medicare patients. Again, market conditions in the area could limit the ability of physicians to pursue this strategy.

IV. RESPONSES DURING THE PERIOD OF THE FEE FREEZE

In order to provide a context for analyzing responses during the period of the freeze, a short discussion of historical spending/utilization trends is first presented. Responses to the freeze from two data sources -- monthly Treasury outlay data and data from a selected sample of carriers -- are then reported.

A. Historical Spending/Utilization Trends

Medicare spending for physicians' services has had a history of rapid growth. In the eighteen years since the program's inception, Medicare expenditures for physicians' services have grown annually at double-digit rates, except during the years of the Economic Stabilization Program (1971 to 1974). Between FY 1978 and FY 1983, Medicare spending for physicians' services increased by $8.2 billion or at an average annual rate of 20.5 percent.

Based on actuarial estimates, there has been a significant deceleration in the rate of growth of outlays for physicians' services from the 18.5 percent rate in FY 1983 to 12.4 percent in FY 1984. The deceleration was due to a number of factors including:

- The drop in admissions and the reduction in length-of-stay following the implementation of hospital PPS, which reduced expenditures for physicians' services provided to hospital inpatients,

- The shift in services from the physicians' services category to the independent lab and hospital inpatient categories as a result of direct billing for laboratory services and "rebundling" under hospital PPS,

- The freeze on Medicare customary and prevailing charges, and

- An increase in average claims processing times.

Although the FY 1984 rate of increase was relatively low compared to previous program trends, it was still large compared to the rest of the Federal budget. In FY 1984, the percentage increase in outlays for physicians' services was the fifth largest outlay increase of all the functions in the Federal budget.

The 1985 SMI Trustees Report indicates that during the ten years ending June 1983, per enrollee utilization/intensity for physicians' services increased by an average of 5.7 percent per year. During the later half of this ten-year period, per enrollee utilization/intensity increased by an average of 7.1 percent per year. For the July 1983 to June 1984 period, utilization/intensity is estimated to have increased by 3.3 percent. This drop in the rate of increase in utilization/intensity may have resulted from a reduction in physicians' services provided to hospital inpatients as a result of PPS.

B. Recent Spending Trends from the Monthly Treasury Reports

Annual outlay data do not allow for disaggregation and analysis of spending for semi-annual or quarterly periods. Thus, one cannot pinpoint trends or the effects of major program changes. In order to monitor the effects of the freeze and other program changes on Part B expenditures on a monthly and quarterly basis, data from monthly Treasury Reports were compiled for this study.

The Treasury Reports provide outlay information for the month based on cash drawn from the Treasury and from the Federal Reserve letters of credit

maintained by each Medicare contractor. The actual amount drawn from the trust funds in a given month is allocated to benefit payments and administrative costs based on historical experience. In the subsequent month, the estimated allocation is reconciled with the actual distribution reported by the contractors. Adjustments are reflected as additions or subtractions to totals reported for that month.

Monthly Treasury Reports display program outlays and therefore reflect when a bill is paid rather than when a service is provided. Expenditures based on date of service are a preferable data source for examining program trends. They serve as the basis for actuarial projections. Although data on this basis are not available until at least one year after the end of a given time period, monthly outlay data are a useful data source because it is available within a few weeks after the end of the month and can therefore provide an early indication of trends in the program.

An analysis of program trends for physicians' services based on monthly Treasury Report data must be interpreted with the following caveats:

- Trends can be affected by changes in claims processing time or other cash flow factors since the data is based on funds drawn, and

- The data combine all Part B benefit payments and do not provide outlay information specific to physicians' services (However, physicians' services represent about 66 percent of total Part B benefit payments).

Table 1 shows the percent increase in total Part B benefit outlays over the same

quarter in the previous year for FY 1983 to FY 1985. Total Part B benefit outlays during the fourth quarter of FY 1984, the first quarter of the fee freeze (July to September 1984), increased by only 6.6 percent compared to a 16.2 percent increase in the same quarter of FY 1983. A single digit rate of increase in total Part B benefit outlays continued through the first half of FY 1985. However, the rate of increase accelerated in each quarter of FY 1985, from 3.8 percent in the first quarter to 23.5 percent in the fourth. Overall the rate of increase in FY 1985 was higher than that in FY 1984, 12.0 percent as compared to 11.4 percent.

As mentioned earlier, after the monthly Treasury statement is finalized, HCFA receives a report from the contractors on the total funds drawn for the previous month which separates benefit payments from administrative costs. This study separated Part B benefit payments made by intermediaries from those made by carriers. This disaggregation yields separate monthly benefit outlay totals for hospital outpatient services (which are reimbursed on a reasonable cost basis by intermediaries) and for all other Part B services (which are reimbursed by carriers, generally on a reasonable charge basis), exclusive of reimbursements to prepayment plans (which are reimbursed directly by HCFA). Since physicians' services represent about 85 percent of these remaining Part B charge-based services, a more accurate picture of the rate of increase in physicians' services can be obtained by examining trends in these charge-based outlays, rather than the basic Treasury reports.

Table 1 also shows the percent change in charge-based outlays over the same quarter in the previous year for FY 1983 to FY 1985. After an increase of 19.6 percent in FY 1983, the rate of increase in charge-based outlays declined to 11.8 percent in FY 1984. Notably, the rate of increase in charge-based outlays in each

quarter of FY 1984 was lower than the same quarter in the previous year by at least 5.4 percentage points.

The rate of increase in charge-based outlays has generally been accelerating during each quarter of the fee freeze. During the July to September 1984 quarter the rate of increase was 8.4 percent. During the second freeze quarter it declined to 7.8 percent. But, in each subsequent quarter, the rate of increase accelerated. In the fourth quarter of FY 1985, charge-based outlays increased by 19.0 percent. Overall for FY 1985, the rate of increase was 12.0 percent.

Of the 12.0 percent increase in charge-based outlays during FY 1985, an estimated 2 percentage points is attributable to growth in Part B enrollment (based on actuarial enrollment projections). The remaining 10.0 percent is due to changes in price and utilization/intensity. Based on actuarial projections, increases for non-physician services such as durable medical equipment, lab services, etc., would account for 3.4 percentage points of the total increase. The remaining 6.6 percent represents the increase in utilization/intensity for physicians' services during FY 1985.

The estimated utilization/intensity increase of 6.6 percent for charge-based outlays is close to the average utilization/intensity increase experienced during the previous year five years (7.1 percent), higher than the average experienced over the previous ten years (5.7 percent) and twice the rate of the previous year (3.3 percent). Given the continued impact of hospital PPS and the effect of the lab direct billing provision of DEFRA, utilization/intensity in FY 1985 might have been expected to be closer to the experience in the previous year. Indeed, the 1985 SMI Trustees Report projected a 3.8 percent increase in utilization/intensity for FY

1985. Thus, the observed utilization/intensity factor is 74 percent higher than the actuarial projection.

C. Data from Selected Carriers

In order to analyze physicians' responses to the fee freeze, a special data request was made to selected carriers. The design of the data request is described in this section. The results are then analyzed and discussed.

(1) Study Issues

The Congressional mandate for a report on changes in the volume and mix of physicians' services in response to the fee freeze was specific on a number of points, including that:

- The examination be based on per capita volume,
- Comparisons be made between participating and non-participating physicians and, for non-participating physicians, between assigned and unassigned claims, and
- Comparisons be made between various physician specialties and across geographic areas.

The statutory language for this study indicated that changes in the per capita volume and mix of services should be examined. The Conference Report accompanying this section suggested that "per capita" be defined as either users or enrollees. Measuring changes on a per capita basis controls for increases in volume due to growth in the number of enrollees treated.

In the data requested from carriers, per user measurement was selected for comparison rather than per enrollee measurement since it more accurately reflects changes in the volume of services provided by each category of physician. An analysis based on enrollees would use the same denominator to compare the volume of services reported by both participating and non-participating physicians and for each specialty. As a result, if there were large shifts of enrollees from non-participating to participating physicians, the data could show a decline in services provided when all that actually occurred was a shift in enrollees from non-participating physicians to participating physicians.

The number of users was defined as the unduplicated count of the beneficiary Health Insurance Claim (HIC) numbers that appear on claims for services provided by the physicians included in the sample for this study. Carriers were requested to provide separate counts according to the participation status of the physician and, in the case of non-participating physicians, also according to the assignment status, for all doctors of medicine (MDs) and doctors of osteopathy (DOs) combined, and for each of ten selected specialties.

The unit of observation was the individual physician based on the physician identification number (ID number). Medicare does not, however, have unique physician IDs for individual physicians which cover all the settings in which a

physician submits bills. Medicare physician IDs can include multiple physicians (e.g., all those billing under the same ID number). Further, in certain situations an individual physician may bill under multiple physician ID numbers.

In order to avoid situations in which the entry of new physicians or retirement of active physicians affects the analysis, the data was requested only for those physicians who were active in each of the periods of interest. Active physicians were defined as provider IDs with billings for at least one service in the January to March quarter of 1983, 1984, and 1985.

The selected carriers were requested to provide data on the number of claims, services, submitted charges and allowed charges for all services rendered and/or billed by physicians by participation status, and by assignment status for non-participants. While there was no participating physician program prior to October 1, 1984, comparable data on the services provided in prior periods was needed in order to identify changes in the volume and mix of services rendered by participants. Carriers were requested to classify physicians (i.e., provider IDs) as participants or non-participants in prior periods according to whether or not there was a participation agreement for that provider I.D. covering the period from October 1, 1984, to September 30, 1985.

Data was requested for each of ten specialties -- general practice, family practice, internal medicine, cardiology, general surgery, ophthalmology, orthopedic surgery, anesthesiology, radiology and pathology -- and also for all MD/DO specialties combined. The selected 10 specialties are by far the largest under Medicare, accounting for about 73 percent of Medicare spending for physicians' services. Data on claims, services, allowed charges, submitted charges and users were

obtained for all types of services combined and separately for each of the five types of services — medical care, surgery, laboratory, radiology and other types — by specialty and for all MD/DO specialties combined. Other services include such types of services as anesthesiology, consultations, assistants-at-surgery, radiation therapy, etc..

Beyond the design issues mandated by Congress, three other issues had to be addressed before the data request could be made:

- o The time period to be used for comparison,
- o Whether data should be based on date of service or date of payment, and
- o The sample of carriers to be used.

The fact that the report was to be completed only one year after the beginning of the freeze limited options on these issues. For example, while a twelve month period is preferable in order to detect changes in utilization, it was not feasible to use such a measurement period given the time-frame for this study. The use of a single month would have been too short a time period and would have been subject to fluctuations. Therefore, a three-month period or quarter was selected. This is the same time period suggested in the Conference Report for monitoring the compliance of non-participating physicians with the fee freeze.

In order to measure changes during the freeze period, data must be compared to the pre-freeze period. This is necessary to analyze whether the observed behavior differs from that which would reasonably have been expected to occur based on historical trends without the change. While it may have been desirable to have a number of years of pre-freeze data in order to separate responses to the freeze

from the behavior that would have been expected given historical trends, this was not possible because carriers are not required to keep this data. All that was possible was a three year comparison. In order to control for seasonality factors, data during the freeze quarter was compared to data from the same quarter in the two prior years.

Although the July to September quarter, the first quarter under the freeze, was the first choice for the study quarter, there were a number of theoretical and practical considerations that lead to the selection of the January to March quarter. First, the July to September 1984 quarter may not have accurately reflected physicians' responses to the fee freeze because the statute was not enacted until July 18, 1984; the letter to physicians explaining the provisions of DEFRA was not sent out until late August; and the direct billing provision for laboratory services was being implemented. Moreover, since the participating physician program was not yet operational, it would not have been possible to analyze behavior under this program and its interaction with the fee freeze. While selection of the October to December 1984 quarter, the first quarter under the participating physician program, would have avoided some of these problems, it was not practical to use this period because carriers are only required to maintain history files for services rendered during the period beginning on October 1 of the year preceeding the current calendar year. Thus, as of January 1, 1985, data for October to December 1982 were not available. For these reasons, the January to March 1985 quarter was selected as the period to measure responses to the freeze, and the January to March quarters of 1984 and 1983 were used for comparison.

The use of data from the January to March quarter also presents problems. For example, while in the January to March 1985 quarter participants accepted

assignment on all claims, it is likely that not all of these physicians had accepted assignment on all claims during the same quarter of 1983 and 1984. Claims which had previously been unassigned and submitted by the beneficiary will now be submitted directly by the physician. Physicians generally submit claims more quickly since beneficiaries tend to hold onto claims until the deductible is met. This speed-up in the submittal of claims could result in an apparent increase in claims between January to March 1984 and January to March 1985. It could also cause the market share for participating physicians to be overstated (i.e. the percent of total allowed charges provided by participants), since the speed-up in claims submitted could also result in an increase in claims processed for services provided by participants. Because the same quarter is being compared across all three years, this phenomena should not create a problem in the comparisons for non-participating physicians, unless there were dramatic changes in the acceptance of assignment.

The second issue was whether to base the analysis on claims paid (or processed) during a quarter or on claims for services rendered during the quarter. Ideally, the analysis would be based on claims for services actually rendered during the quarter. This would reduce any potential bias that might have been introduced because of delays in submitting bills by either physicians or beneficiaries, or changes in the average claims processing time (CPT) during a quarter. However, data on claims for services rendered during a quarter are available only with a lag because of the delay between the provision of services and submission of these claims, especially unassigned claims from beneficiaries. As mentioned earlier, reliable data on services rendered is not available until one year after the close of a quarter. Thus, while an analysis using claims for services actually rendered during a quarter would have been preferable to one using claims processed, because of the short time-

frame for this study, data on claims processed during the January to March quarter were used.

The final design issue was the selection of a sample of carriers to use in the study. The expense of collecting the data as well as the quantity of data to be collected and processed precluded obtaining data from all carriers. The carriers that were used in this study were selected based on their ability to provide the information requested in the required time-frame, and the need for some amount of geographic diversity in the sample.

The selected carriers cover the following States: Delaware, District of Columbia, Georgia, Iowa, Maryland, New Jersey, North Carolina, Pennsylvania and Texas. Two carriers each serve three different States: Pennsylvania Blue Shield covers Pennsylvania, Delaware and the District of Columbia and Prudential covers New Jersey, North Carolina and Georgia. Thus, the sample concentrates on Mid-Atlantic and East coast States.

The carriers selected represent 22.5 percent of Medicare spending and cover 21.9 percent of SMI enrollees. The largest 3 States — Pennsylvania, Texas and New Jersey — represented 6.3 percent, 5.6 percent and 3.6 percent of Medicare spending respectively and account for more than two-thirds of allowed charges for the nine States combined. The nine States had physician to population ratios ranging from 164 per 100,000 in Texas to 455 per 100,000 in New Jersey compared to a national average of 206 per 100,000. Expenditures per enrollee in the nine States ranged from $559 in Iowa to $1,936 in DC in 1984. The nine State average of $996 was 6 percent greater than the national average. In six States, expenditures per enrollee were within $100 of the national average. Two of the

States, Maryland and New Jersey, operate their Medicare hospital reimbursement programs under a waiver as part of a State-wide reimbursement system.

Physician participation rates in only 2 of the 9 states (Texas and New Jersey) were below the national average of 29.8 percent. Two of the 4 states with the highest participation rates in the nation (D.C. and Pennsylvania) were among the 9 states included in the sample. In January to March 1985, assignment rates for physicians' services were greater than the national average of 65.4 percent in Pennsylvania (85.9 percent), Maryland (83.3 percent), Delaware (82.2 percent), DC (78 percent) and Texas (65.9 percent). Georgia (64.4 percent), New Jersey (62.1 percent), North Carolina (60.2 percent) and Iowa (49.3 percent) had assignment rates below the national average. The sample over-represents states with high assignment rates. Four of the eight states with the highest assignment rates in the nation are included in the sample.

Based on the data collected, several measures of changes in volume, mix and participation/assignment were constructed and analyzed.

Changes in the volume of services were measured by:

- Changes in the number of claims per user of services,
- Changes in the number of services per user of services for all types of services combined, and
- Changes in the number of services per user by type of service.

If there was an increase in the volume of services provided per user, there should have been an increase in these statistics.

Changes in the mix of services were measured by:

- Changes in allowed charges per user of services,
- Changes in submitted charges per user of services,
- Changes in the reduction rate (i.e., the rate at which submitted charges are reduced to calculate Medicare allowed charges),and
- Changes in allowed charges per service.

Changes in allowed charges per user could reflect changes in the volume or mix of services, or both. If there was an increase in allowed charges per user beyond the increase in claims or services per user, or if there was a decrease in claims or services per user, it was assumed for the purposes of this study that changes in mix rather than changes in volume had occurred.

In addition to changes in allowed charges per user, changes in submitted charges per user of services were used to measure whether changes in mix occurred for non-participants. This measure was only used for non-participants since participating physicians were permitted to increase their submitted charges as an incentive to participate. If participants took advantage of this opportunity, it would be impossible to separate permissable increases in submitted charges per user from increases due to changes in mix.

Medicare carriers' monitoring of non-participating physicians' compliance with the freeze on actual charges indicates that virtually all non-participating physicians had complied with the freeze during the October to December 1984 and January to March 1985 quarters. Yet while DEFRA prohibited non-participating physicians from increasing their submitted charges above the level of actual charges made during the April to June 1984 base period (A-J 84), procedures for which no actual charge was made during A-J 84 are not covered. Therefore, increases in submitted charges per user are an indication of either changes in mix to procedures where

there is a larger difference between submitted and allowed charges, or movement to procedure codes for which there were no actual charges made in A-J 84 (e.g. different medical visit codes).

The reduction rate is defined as the difference between the submitted and allowed charge as a percent of the submitted charge. With the freeze on Medicare customary and prevailing charges, and on the actual charges of non-participating physicians, changes in the reduction rate suggest changes in the mix of service.

Changes in participation/assignment were measured by:

- o Changes in the market share for participating physicians, and
- o Changes in the assignment rate for non-participants.

The market share for participating physicians is defined as the allowed charges for participating physicians as a percent of total allowed charges for all physicians during the quarter. Although during January to March 1985 all claims by participants were accepted on assignment, this was not the case in prior quarters. Since data for the 1983 and 1984 quarters were not separated into assigned and unassigned claims for physicians who were participants in 1985, the overall assignment rate for the January to March quarter of 1983 and 1984 cannot be computed. The assignment rate for non-participants is the allowed charges for services provided by non-participating physicians on an assigned basis, as a percentage of the total allowed charges for services rendered by non-participants.

Data on the market share for participants and on the assignment rate for non-participants may differ from other figures published by HCFA. This is due to the fact that the statistics in this study are based on a sample of physicians as opposed to all physicians.

(2) Analysis of Results

Before discussing the analysis of the data, it is necessary to mention two factors that could have a significant impact on the results. In addition, it is necessary to discuss the approach used in summarizing the results.

Given the importance of users to all the measures used in this study, it is helpful first to consider changes in the absolute number of users.

For participating physicians, there were notable changes in the absolute number of users of services. Based on the combined data from the nine carriers, there was an 18.3 percent increase in the absolute number of users of services for all MD/DO specialties combined (Table 2A) in J-M 85 compared with J-M 84. This compares with an 8.1 percent increase in users between J-M 83 and J-M 84.

Similar increases in the absolute number of users were not found for non-participating physicians. Based on the combined data from the nine carriers, there was 0.8 percent increase in the absolute number of users of services for all MD/DO specialties combined (Table 2A) in J-M 85 compared with J-M 84. This compares with 6.6 percent increase in users between J-M 83 and J-M 84.

It is possible that this difference is due to the speed-up in the submission of formerly unassigned claims from participants discussed earlier. These changes in the absolute number of users have important implications for the results because of their significance to the per user statistics.

A second factor that could have an impact on the overall results is changes in average claims processing time (CPT) because the 9 carrier data are based on

claims paid during a quarter. For example, Maryland, which had the largest increase in the absolute number of claims processed during J-M 85 (22.5 percent) (Table 3B), also experienced a 27 percent reduction in CPT during the same period. Was the increase in claims processed a result of an increase in the volume of services rendered by physicians or a result of the reduced CPT of that carrier? Similarly, Iowa had the largest drop in claims processed (13.9 percent), but also one of the biggest increases in CPT (53.3 percent). Was the decline in the volume of claims processed due to reduced utilization or the increase in CPT?

Although the possibility of adjusting the data to attempt to account for changes in CPT was considered, there are significant problems in making such an adjustment, including:

- o The only available data on CPT is for all claims, while the study deals only with services rendered and/or billed by physicians. Is it reasonable to assume that the CPT for all claims is the same as the CPT for claims for physicians' services, especially since delays are much more likely to have occurred for lab claims as a result of the DEFRA changes?

- o If an adjustment could be made for changes in CPT, is it reasonable to adjust the number of services, submitted and allowed charges, and users of services by the same factor as for claims? Similarly, would it be reasonable to use the same factor for claims for all MD/DO specialties combined to adjust the claims of each specialty or each type of service?

Given these technical problems and the short time-frame for the production of this report, adjustments for CPT were not attempted. HCFA is funding longer term research which will utilize data based on date of service, eliminating the need to account for changes in CPT.

When the study was designed, it was expected that comparisons could be made between the rates of change in J-M 85 and J-M 84 in order to see if the results during the period of the freeze were different than what might have been expected. It was expected that changes in volume and/or mix would appear as

increases in J-M 85 that were larger than those experience in J-M 84. However, in the actual results, many of the per user measures show actual decreases in the quarter during the freeze. For example, for the combined carrier data for all MD/DO specialties combined, allowed charges per user decreased 9.0 percent for participants and 3.7 percent for non-participants. The meaning of this type of result is not clear, especially in the context of aggregate increases in charge-based outlays of 14.0 percent and 9.0 percent in J-M 84 and J-M 85, respectively.

It is likely that these decreases are the result of both the numerous program changes occurring in the comparison quarters and the freeze quarter, especially the lab direct billing provision and the distortion in the user counts for participating physicians described earlier. Because of these problems, the focus of the analysis is on increases of five percent or more during J-M 85. Although the word "significant" is sometimes used in connection with these increases, the use of this standard does not imply statistical significance.

The absence of large increases in per user measures does not mean that there was not an overall increase in outlays per user. As a result of the lab direct billing provision of DEFRA, there probably was movement of services, submitted and allowed charges that in J-M 83 and 84 had been in the physicians' services category into the independent laboratory category in J-M 85. Thus, these services and charges would not have been counted in the last year of the study. If these services had remained in the physicians' services category in J-M 85, there may have been more instances of increases in volume/mix indicators of five percent or more. However, data are not available to determine the impact of this provision on the results.

(a) Changes in Volume

Two of the potential responses to the freeze discussed in Section III would increase the volume of billed services. They are increasing the number of services provided to each patient, and fragmenting services previously provided as part of a broad procedure. If an increase in the volume of services occurred, there should have been an increase in the number of claims per user and/or services per user. If fragmentation of services occurred, there should have been an increase in services per user.

Participating Physicians

(1) Claims Per User

Combined Carrier Data - Based on combined data from the nine carriers, there was a decrease in J-M 85 in claims per user for all MD/DO specialties combined. There was no significant increase, that is, an increase of five percent or more, for any of the ten specialties studied.

Carrier Specific Data - Although there was a decrease in claims per user for the combined data, one carrier (Maryland) had a significant increase for all MD/DO specialties combined. All specialties, except cardiology, had increases of five percent or more in one or more of the individual carriers.

(2) Services Per User

Combined Carrier Data - Based on the combined data from nine carriers, there was a decrease in J-M 85 in services per user for all MD/DO specialties combined. Of the ten specialties, only anesthesiology had a significant increase.

Carrier Specific Data - Although there was a decrease in services per user for the

combined carrier data, of the nine carriers, Maryland had a significant increase for all MD/DO specialties combined. Five specialties had increases of five percent or more in at least one carrier.

(3) Services Per User by Type of Service

Combined Carrier Data - Services per user increased for surgery and for other services while medical care, radiology and laboratory services decreased.

Carrier Specific Data - Services per user for surgical services generally increased while services per user for medical care, radiology and laboratory services declined across all nine carriers. Other services increased in over half of the carriers.

Non-Participating Physicians

As with participating physicians, non-participating physicians had the incentive to make up revenue lost because of the freeze. In addition, non-participating physicians may have had the incentive to make up any revenues lost from patients due to the decision not to participate. If an attempt was made to maintain revenues by increasing volume and/or fragmenting services, there should have been an increase in claims and/or services per user.

(1) Claims Per User

Combined Carrier Data - Based on the combined data from nine carriers, there was a decrease in J-M 85 in claims per user for all MD/DO specialties combined. There was no significant increase, that is, an increase of five percent or more, for any of the ten specialties studied.

Carrier Specific Data - Consistent with the decrease in claims per user for the

combined data, no carrier had a significant increase for all MD/DO specialties combined. Only five of the nine specialties had an increase of five percent or more in one or more of the individual carriers.

(2) Services Per User

Combined Carrier Data - Based on the combined data from nine carriers, there was a decrease in J-M 85 in services per user for all MD/DO specialties combined. No specialty had a significant increase.

Carrier Specific Data - Consistent with the decrease in services per user for the combined data, all carriers also showed a decrease for all MD/DO specialties combined. Only three specialties had increases of five percent or more in at least one carrier.

(3) Service Per User by Type of Service

Combined Carrier Data - Services per user increased for surgery and other services while medical care, radiology and laboratory services decreased.

Carrier Specific Data - Services per user for surgery and for other services increased in more than half of the carriers, while services per user for medical care, radiology and laboratory services generally decreased.

Change in Volume - Summary

Based on the combined carrier data, there was no across the board increase in volume per user of services for either participating or non-participating physicians. The increases in services per user that did occur were in surgical types of service, and other services. For participating physicians, there was a significant increase in

claims and services per user in one carrier. There were significant increases in claims per user for each of the specialties, except cardiology, in at least one carrier and significant increases in services per user for half of the specialties in at least one carrier.

For non-participating physicians, no carriers had a significant increase in claims or services per user. Half of the specialties had significant increases in claims per user in one carrier, and none had such increases in more than one carrier. Only three specialties had significant increases in services per user in at least one carrier.

(b) Changes in Mix

In addition to increasing the volume of services, physicians could react to the freeze by changing the mix of services provided and/or billed. If this occurred, one would expect to see significant increases in allowed charges per user beyond those which might be expected due to increases in claims or services per user. Increases in allowed charges per service could also be an indicator of changes in mix. One could also expect to see significant increases in submitted charges per user and in the reduction rate. However, for reasons outlined earlier, changes in submitted charges per user and changes in the reduction rate will only be examined for non-participating physicians.

Participating Physicians

(1) Allowed Charges Per User

Combined Carrier Data - Based on the combined data from nine carriers, there was a decrease in J-M 85 in allowed charges per user for all MD/DO specialties combined. No specialty had a significant increase.

Carrier Specific Data - Consistent with the decrease in allowed charges per user for the combined data, no carrier had a significant increase for all MD/DO specialties combined. Seven of the ten specialties, however, had increases of five percent or more in individual carriers.

(2) Allowed Charges Per User by Type of Service

Combined Carrier Data - Allowed charges per user increased for surgery, radiology and other services, while decreasing for medical care and laboratory services.

Carrier Specific Data - Although there were increases and decreases by carrier in allowed charges per user for surgery, radiology and other services, all carriers had decreases for medical care and laboratory services.

(3) Allowed Charges per Service

Combined Carrier Data - Based on the combined data from the nine carriers, there was only a slight increase in allowed charges per service in J-M 85 for all MD/DO specialties combined. Only two specialties (cardiology, pathology) had significant increases.

Carrier Specific Data - Consistent with the small increase in allowed charges per service, only one carrier (Texas) had a significant increase for all MD/DO specialties combined. Each of the ten specialties had an increase of five percent or more at individual carriers.

Non-Participating Physicians

(1) Allowed Charges Per User

Combined Carrier Data - Based on the combined data from nine carriers, there was

a decrease in J-M 85 in allowed charges per user for all MD/DO specialties combined. Only one specialty had a significant increase.

Carrier Specific Data - Consistent with the decrease in allowed charges per user for the combined carrier data, no carrier had a significant increase for all MD/DO specialties combined. Six of the ten specialties had significant increases in at least one carrier.

(2) Allowed Charges Per User by Type of Service

Combined Carrier Data - Allowed charges per user increased for surgery and for other services while decreasing for medical care, radiology and laboratory services.

Carrier Specific Data - Carriers generally experienced increases in allowed charges per service for surgical services. There were increases and decreases by carrier for radiology and other services, while there were generally decreases for medical care and laboratory services.

(3) Submitted Charges Per User

Combined Carrier Data - Based on the combined data from nine carriers, there was a decrease in J-M 85 in submitted charges per user for all MD/DO specialties combined. Three specialties had significant increases.

Carrier Specific Data - Consistent with the decrease in submitted charges per user for the combined data, only one carrier had a significant increase for all MD/DO specialties combined. Seven of the ten specialties had significant increases in at least one carrier that were not due to increases in volume.

(4) Reduction Rates

Combined Carrier Data - Based on the combined data from nine carriers, there was a significant increase in the reduction rate in J-M 85 for all MD/DO specialties combined. Seven specialties had significant increases.

Carrier Specific Data - Consistent with the increase in the reduction rate for the combined data, seven of the ten carriers had significant increases for all MD/DO specialties combined. All ten specialties had significant increases in at least one carrier.

(5) Allowed Charges per Service

Combined Carrier Data - Based on the combined data from the nine carriers, there was a significant increase in allowed charges per service in J-M 85 for all MD/DO specialties combined. Three specialties (general surgery, orthopedic surgery and pathology) had significant increases.

Carrier Specific Data - Consistent with the significant increase in allowed charges per service for the combined carrier data, three carriers had significant increases for all MD/DO specialties combined. Eight of the ten specialties had increases of five percent or more in one or more carriers.

Changes in Mix-Summary

There was no across the board change in mix of services provided and/or billed that resulted in higher allowed charges per user of services for either participants or non-participants. However, there were increases by type of service for surgical services and for other services.

For participating physicians, there were significant increases in allowed charges per user for seven of the ten specialties (anesthesiology, cardiology, radiology, pathology, ophthalmology, orthopedic surgery and general surgery) in at least one carrier. Each of the ten specialties had increases of five percent or more in allowed charges per services in at least one carrier.

For non-participating physicians, there was a significant increase for pathology for the combined carrier data as well as significant increases in at least one carrier for six of the ten specialties (ophthalmology, pathology, general surgery, orthopedic surgery, cardiology and radiology). In addition, there were increases of five percent or more both in allowed charges per service and in the reduction rate for the combined carrier data. Similarly, all ten specialties had increases of five percent or more in the reduction rate in individual carriers. All specialties, except family practice and internal medicine had significant increases in allowed charges per user in individual carriers.

(c) Changes in Participation and Assignment

(1) Market Share for Participating Physicians

Combined Carrier Data - Based on the combined data from the nine carriers, there was a significant increase in the market share for participating physicians in J-M 85 for all MD/DO specialties combined. Five specialties had significant increases.

Carrier Specific Data - Consistent with the significant increase in the market share for participating physicians for the combined carrier data, six carriers had a significant increases for all MD/DO specialties combined. Each of the specialties had an increase of five percent or more in at least one carrier.

(2) Assignment Rates for Non-Participating Physicians

Combined Carrier Data - Based on the combined data from the nine carriers, there was a slight decline in the assignment rate in J-M 85 for all MD/DO specialties combined. While no specialties had significant increases, four had significant decreases.

Carrier Specific Data - Consistent with the decline in the non-participants assignment rate for the combined carrier data, three carriers had significant decreases and only one carrier had a significant increase for all MD/DO specialties combined. Although there were instances of both significant increases and decreases for almost all specialties in individual carriers, there were generally more decreases than increases.

Changes in Market Share for Participants and Assignment for Non-Participants - Summary

The market share for participants increased in all carriers and in almost all specialties. The change in assignment rate for non-participants varied among the carriers. Carriers having high market shares for participants also experienced decreases in assignment rates for non-participants. Carriers with low market shares for participating physicians showed no change in assignment rates for non-participants. Ophthalmology was the only specialty to show a significant increase in both market share for participants and assignment rates for non-participating physicians in more than half of the carriers.

V. SUMMARY AND CONCLUSION

The fee freeze and the participating physician program were implemented during a period in which there were more significant changes in the Medicare program than at any time since its enactment twenty years ago. These changes include the hospital Prospective Payment System, rebundling of non-physician services provided to hospital inpatients, hospital-based physician changes, laboratory reimbursement changes, conversions to HCPCS and increases in the supply of physicians. The interaction of these changes, in addition to the relationship between the participating physician program and the fee freeze, make it very difficult to assess whether any observed changes in the volume and/or mix of services by physicians were a result of the freeze or of these other factors.

The central issue in regard to physicians' responses to the fee freeze is whether physicians can and will attempt to maintain the level of Medicare revenues that they would have received without the freeze. However, a major difficulty in examining this response is that physicians may also attempt to maintain the level of revenues that they would have received without the participating physician program. For this reason, while not a major focus of this report, factors affecting physicians' participation decisions were briefly discussed. Then, eight potential responses to the fee freeze were discussed including: changing the volume of services provided per enrollee, changing the percentage of Medicare patients in a practice, increasing the intensity of services provided and/or billed, fragmenting services for billing purposes, pursuing a more aggressive collection effort from patients, increasing submitted charges, decreasing acceptance of assignment, and/or increasing charges to non-Medicare patients. Some of these responses are the same for both participating and non-participating physicians, while others vary by participation status, and the remainder are unique to one status.

Medicare spending for physicians' services has had a history of rapid growth, increasing at double-digit rates, except during the Economic Stabilization Program (1971 to 1974). While Medicare spending for physicians' services increased at an average annual rate of 20.5 percent between FY 1978 and FY 1983, there was a significant deceleration from the 18.5 percent rate in FY 1983 to 12.4 percent in FY 1984. This deceleration was due to a number of factors, including the drop in admissions and the reduction in length of stay following the implementation of hospital PPS, which reduced expenditures for physicians' services provided to hospital inpatients; the shift in services from the physicians' services category to the independent laboratory and hospital inpatient categories as a result of direct billing for laboratory services and rebundling under hospital PPS; the freeze on Medicare customary and prevailing charges; and an increase in claims processing times. Although the FY 1984 rate was relatively low compared with previous program trends, the percentage increase in outlays for physicians' services was the fifth largest outlay increase of all the functions in the Federal budget.

A. Aggregate Outlay Analysis

This study examined responses to the freeze from two data sources -- aggregate monthly Treasury outlay data and detailed data from a sample of nine carriers. Monthly Treasury outlays represent all services covered by Part B including non-physician services and reimbursements to hospital outpatient departments. Physicians' services represent about 66 percent of this total. In order to obtain a more accurate representation of changes in outlays for physicians' services, for this study, monthly Treasury outlays were separated into totals for hospital outpatient services (which are reimbursed on a reasonable cost basis by intermediaries) and for all other Part B services (which are generally reimbursed by carriers on a reasonable charge basis). Physicians' services are about 85 percent of charge-based outlays. A caution about use of outlay data is that they are based on claims

processed during a period, not on services rendered. Thus, changes in claims processing times, such as those that occurred during the periods under consideration, affect outlays reported.

While the rate of increase in charge-based outlays during the period of the freeze was lower than the rate of increase in the same quarter prior to the fee freeze, the rate of increase has generally been accelerating during each quarter of the fee freeze. The rate of increase in charge-based outlays during FY 1985 was 12.0 percent. After adjusting for enrollment increases and increases in outlays for non-physician services, the resulting rate of increase in utilization/intensity during FY 1985 was 6.6 percent. This estimated utilization/intensity increase is close to the average utilization/intensity increase experienced during the previous five years (7.1 percent), higher than the rate for the previous ten years (5.7 percent) and twice the rate of the previous year (3.3 percent). The observed utilization/intensity factor is also 74 percent higher than actuarial projections for FY 1985 (3.8 percent).

B. Sample Carrier Analysis

In order to analyze more detailed responses to the fee freeze, a special data request was made to a sample of nine carriers. The carrier data cover all claims processed for services rendered and/or billed by physicians during the January to March quarters of 1983, 1984 and 1985. The data requested include the number of claims, services, submitted and allowed charges and users of services, by participation status and by assignment status, for all MD/DO specialties combined

and for ten selected specialties. The sample carriers, representing 22.5 percent of Part B outlays, was selected based on their ability to provide the requested data within the necessary time-frame. The sample concentrates on Mid-Atlantic and East coast states and overrepresents high assignment rate states.

Changes in the volume of services were assessed separately for participating physicians and non-participating physicians using changes in the number of claims, services and each of five types of services per user. Changes in the mix of services were assessed separately for participants and non-participants using changes in allowed and submitted charges per user, changes in allowed charges per user for five types of service, changes in the reduction rate and changes in allowed charges per service. Changes in participation/assignment were measured by changes in the market share for participating physicians and changes in the assignment rate for non-participating physicians.

An overriding concern with the sample carrier data is that, like the Treasury outlay data, they are based on claims processed during a period rather than services rendered. While services rendered during a period are a preferable measure, they are not available until one year after the close of the period. Because of the short time-frame for this study, it was decided to use claims processed during a quarter. However, these data are subject to fluctuations because of changes in claims processing times. Adjustment of carrier data for differences in average claims processing time was not possible because there is no good basis to make such adjustments. Thus any conclusions from these data are tenative and must be confirmed with further research.

Based on the data from the sample of carriers, the following changes in volume, mix and participation/assignment were found:

Changes in Volume - Based on the combined carrier data, there was no across the board increase in volume per user of overall services for either participating physicians or non-participating physicians. The increases in services per user that did occur were in surgical types of service, and other services. For participating physicians, there were increases in claims and services per user of five percent or more in at least one carrier. Increases in claims per user of similar magnitude occurred for each of the specialties, except cardiology, in at least one carrier, and in services per user for half of the specialties in at least one carrier.

For non-participating physicians, no carriers had an increase of five percent or more in claims or services per user. Half of the specialties had increases in claims per user of five percent or more in one carrier, but none had such increases in more than one carrier. Only three specialties had increases in services per user of five percent or more in at least one carrier.

Changes in Mix - There was no across the board change in mix of services provided and/or billed that resulted in higher allowed charges per user of services for either participants or non-participants. However, there were increases by type of service for surgical services and for other services.

For participating physicians, there were increases in allowed charges per user of five percent or more for seven of the ten specialties (anesthesiology, cardiology, radiology, pathology, ophthalmology, orthopedic surgery and general surgery) in at

least one carrier. Each of the ten specialties had increases in allowed charges per services of five percent or more in at least one carrier.

For non-participating physicians, allowed charges per user of services increased by five percent or more for pathology for the combined carrier data as well as for six of the ten specialties (ophthalmology, pathology, general surgery, orthopedic surgery, cardiology and radiology) in at least one carrier. In addition, there were increases of five percent or more both in allowed charges per service and in the reduction for the combined carrier data. Similarly, each of the ten specialties had increases in the reduction rate of five percent or more in individual carriers. Each of the specialties, except family practice and internal medicine, had increases in allowed charges per user of five percent or more in individual carriers.

Changes in Market Share for Participating Physicians and Assignment for Non-Participating Physicians -The market share for participating physicians increased in all carriers and in almost all specialties. The change in assignment rate for non-participating physicians varied among the carriers. Carriers having high market shares for participating physicians also experienced decreases in assignment rates for non-participating physicians. Carriers with low market shares for participating physicians showed no change in assignment rates for non-participating physicians. Ophthalmology was the only specialty to show a an increase of five percent or more in both market share for participating physicians and assignment rates for non-participating physicians in more than half of the carriers.

C. Future Analysis

The results of this study are limited for a number of reasons, including the use of claims processed rather than services rendered during a quarter, the use of only a

single quarter to measure changes, the inability to disaggregate changes by the locations in which services are rendered, and the inability to measure potential changes in intensity by upcoding of services. As such, any conclusions must be tenative. Further research is needed to confirm the results.

In order to get more conclusive data on physicians' responses to the fee freeze, HCFA is funding policy research to be conducted under a cooperative agreement by the Center for Health Economics Research (CHER). This three-year study will analyze the impact of the fee freeze and the participating physician program, as well as other program changes. Specific objectives of the study are:

- o To document trends in Medicare physician spending, volume, and changes in the site of care before and after the freeze,
- o To perform econometric analysis of the freeze effects, holding constant other related factors, such as the continued phase-in of the hospital PPS, changes in physician supply and beneficiary demand, HMO growth, and procedure code conversion by carriers to HCPCS,
- o To analyze upcoding in response to the freeze, and
- o To disaggregate volume changes into various components, such as visit increases, intensity increases, increases in referrals and "unbundling" of services.

To analyze these issues, CHER will use data covering 1983 to 1986 from three different sources: HCFA's Part B Annual Medicare Data files (the four BMAD files); data from four carriers which each have used HCPCS since 1983 and HCFA's Physician Practice Cost and Income Survey.

Attachment

Detailed Results from Nine Carrier Data

(a) Changes in Volume

Two of the potential responses to the freeze discussed in Section III would increase the volume of services. They are increasing the number of services provided to each patient, and fragmenting services previously provided as part of a broad procedure. If an increase in the volume of services occurred, there should have been an increase in the number of claims per user and/or services per user. If fragmentation of services occurred, there should have been an increase in services per user.

Participating Physicians

(1) Claims Per User

Combined Carrier Data - Based on combined data from the nine carriers, there was a decrease in J-M 85 in claims per user for all MD/DO specialties combined. There was no significant increase, that is, an increase of five percent or more, for any of the ten specialties studied.

Claims per user declined by 3.2 percent for all MD/DO specialties combined in J-M 85 compared to J-M 84 (Table 2A). The 3.2 percent drop was not the result of a decline in claims and users, but was due to the number of users growing at a faster rate (18.3 percent) than the number of claims (14.6 percent). The 3.2 percent decline in J-M 85 was somewhat less than the 3.8 percent decline experienced during J-M 84. That drop was also due to users of services increasing at a faster rate (8.1 percent) than claims (4.0 percent). Of the ten specialties examined, only two showed increases and these increases were far from dramatic (1.3 percent or less).

Carrier Specific Data - Although there was a decrease in claims per user for the combined data, one carrier (Maryland) had a significant increase for all MD/DO

specialties combined. All specialties, except cardiology, had increases of five percent or more in one or more of the individual carriers.

Five carriers experienced increases in claims per user for all MD/DO specialties combined (Table 3A). Maryland was the only carrier to have a significant increase (8.5 percent). There were increases in claims per user of five percent or more for individual specialties in all carriers except Pennsylvania and Texas (Table 3A). Cardiology was the only specialty that did not have a significant increase in at least one carrier. Internal medicine had a significant increase in four carriers; general practice and family practice in three; and general surgery, ophthalmology, anesthesiology and pathology in two. Five specialties had increases of ten percent or more in at least one carrier. Family practice and general practice had such an increase at two carriers; and internal medicine, ophthalmology and radiology in one carrier. In Iowa, general practice and family practice had increases in claims per user of 12.0 percent and 10.8 percent, respectively. These increases are particularly interesting because they occured during the same time that there was a 53.3 percent increase in CPT in Iowa.

(2) Services Per User

Combined Carrier Data - Based on the combined data from nine carriers, there was a decrease in J-M 85 in services per user for all MD/DO specialties combined. Of the ten specialties, only anesthesiology had a significant increase.

Services per user declined by 10.2 percent in J-M 85 for all MD/DO specialties combined (Table 2A). As with claims per user, the 10.2 percent drop in services per user in J-M 85 was the result of the number of users growing at a faster rate (18.3 percent) than the number of services (6.2 percent). The J-M 85 decline was somewhat less than that experienced in J-M 84 (11.9 percent). That drop was also

due to users of services increasing (8.1 percent), while the number of services declined (4.7 percent). Of the specialties, only anesthesiology showed an increase in the level of services per user (9.1 percent).

Overall, services increased less than claims (6.2% vs. 14.6%). This might be explained by the direct billing provision for laboratory services in DEFRA, which may have led to a decrease in the number of services billed per claim and thus a slower growth in the number of services.

Carrier Specific Data - Although there was a decrease in services per user for the combined carrier data, of the nine carriers, Maryland had a significant increase for all MD/DO specialties combined. Five specialties had increases of five percent or more in at least one carrier.

Services per user increased in only one carrier, Maryland (15.2 percent) (Table 3A). The increase in services per user was almost double the increase in claims per user, a result which is opposite to the relationship in the combined carrier data. Thus, it is likely that there was not only an increase in claims per user, but also an increase in the number of services per claim.

North Carolina and New Jersey joined Texas in having no specialties with increases in services per user greater than five percent. Five specialties had increases of five percent or more in at least one carrier. Anesthesiology had such a increase in four carriers; ophthalmology in three; and orthopedic surgery, radiology and pathology in one. Only two specialties had increases of ten percent or more in at least one carrier. Anesthesiology has such an increase in three carriers; ophthalmology at one.

Iowa had an increase in services per user for ophthalmology of 13.1 percent. This increase occurred while claims per user of services was decreasing by 3.6 percent, indicating a significant increase in services per claim.

(3) Services Per User by Type of Service

Combined Carrier Data - Services per user increased for surgery and for other services while medical care, radiology and laboratory services decreased.

In the combined data, services per user decreased by 10.2 percent for all MD/DO specialties combined, and a decrease across all types of service (medical care, surgery, radiology, laboratory and other) (Table 2B). Services per user increased for surgery (2.9 percent) and other services (21 percent), but declined for medical care (14 percent), radiology (4.3 percent) and laboratory (13.7 percent).

Carrier Specific Data - Services per user for surgical services generally increased while services per user for medical care, radiology and laboratory services declined across all nine carriers. Other services increased in over half of the carriers.

Maryland was the only carrier to have an increase in overall services per user. However, surgical services per user increased in all carriers except Iowa (Table 3C), with Maryland and DC having increases greater than five percent and Georgia an increase of 4.8 percent. Other services per user increased in five carriers, with carriers having increases of 10 percent or more. Maryland had an increase of 44.4 percent in other services per user. Medical care services per user declined in all carriers by more than five percent, with decreases ranging from 6.5 percent in DC to a 19.8 percent decline in Iowa. Radiology and laboratory services per user declined in eight out of nine carriers. Both Texas and Georgia had decreases in radiology greater than five percent. For laboratory services, six carriers had

decreases greater than 10 percent. Texas showed a 24.5 percent decline. These decreases might have been expected as a result of the effects of the direct billing provision of DEFRA.

Non-Participating Physicians

As with participating physicians, non-participating physicians had an incentive to make up revenue lost because of the freeze. In addition, non-participants may have had the incentive to make up any revenues lost from patients due to the decision not to participate. If an attempt was made to maintain revenues by increasing volume and/or fragmenting services, there should have been an increase in claims and/or services per user.

(1) Claims Per User

Combined Carrier Data - Based on the combined data from nine carriers, there was a decrease in J-M 85 in claims per user for all MD/DO specialties combined. There was no significant increase, that is, an increase of five percent or more, for any of the ten specialties studied.

Claims per user declined in J-M 85 by 1.3 percent for all MD/DO specialties combined (Table 2A). This drop was the result of a slight decline in claims (0.5 percent) that occurred as users of services increased slightly (0.8 percent). The decline in J-M 85 was smaller than the decrease experienced in J-M 84 (2.6 percent). However, that drop was due to users increasing faster than claims (6.6 percent and 3.9 percent, respectively). Of the ten specialties examined, four showed minor increases. Again, as with participants, the largest increase for any specialty was not dramatic (1.4 percent).

Carrier Specific Data - Consistent with the decrease in claims per user for the

combined data, no carrier had a significant increase for all MD/DO specialties combined. Only five of the nine specialties had an increase of five percent or more in one or more of the individual carriers.

In contrast with participants, only two carriers had increases in claims per user (Table 3A). None of these increases were greater than five percent. There were also fewer instances of significant increases for individual specialties in each of the nine carriers. Only five of the carriers had any specialties with increases of five percent or more. Also, only half of the specialties (general practice, family practice, cardiology, general surgery and radiology) had an increase of five percent or more in any carrier. None had such an increase in more than one carrier. Radiology was the only specialty to have an increase greater than ten percent, and that increase was only in one carrier. However, that increase may have been a function of the relatively small number of claims filed by non-participating physicians in that carrier (Delaware).

(2) Services Per User

Combined Carrier Data - Based on the combined data from nine carriers, there was a decrease in J-M 85 in services per user for all MD/DO specialties combined. No specialty had a significant increase.

Services per user declined by 9.0 percent in J-M 85 for all MD/DO specialties combined (Table 2A). This drop was the result of a decrease in the number of services (8.3 percent) that occurred as the number of users of services increased slightly (0.8 percent). The 9.0 percent decline in J-M 85 was larger than the decrease experienced in J-M 84 (7.6 percent). During that time, the number of services also declined (1.5 percent), while the number of users increased (6.6 percent). Only one specialty showed an increase in the level of services per user, but that increase was just under one percent.

Carrier Specific Data - Consistent with the decrease in services per user for the combined data, all carriers also showed a decrease for all MD/DO specialties combined. Only three specialties had increases of five percent or more in at least one carrier.

For all MD/DO specialties combined, services per user did not increase in any carrier. Only three carriers had any increases by specialty greater than five percent. Only three specialties had increases of five percent or more in at least one carrier. Anesthesiology had significant increases at three carriers; radiology at two; and ophthalmology at one. Anesthesiology and radiology had increases of ten percent or more at one carrier (Delaware), and both of these increases were dramatic. For radiology, the explanation is the same as that for claims per user; that is, there were relatively few services rendered by non-participating physicians. For anesthesiology, there was a precipitous drop in user and services between J-M 84 and J-M 85.

(3) Service Per User by Type of Service

Combined Carrier Data - Services per user increased for surgery and other services while medical care, radiology and laboratory services decreased.

As with participating physicians, although overall services per user decreased for all MD/DO specialties in the combined data, services per user increased for surgery (0.8 percent) and for other services (2.2 percent) (Table 2A). Services per user decreased for medical care (10.1 percent), radiology (4.0 percent) and laboratory services (8.5 percent).

Carrier Specific Data - Services per user for surgery and for other services increased in more than half of the carriers, while services per user for medical care, radiology and laboratory services generally declined.

Although no carrier exhibited an increase in services per user, surgical services per user increased at five of the nine carriers (Table 3C). DC and Delaware had increases of five percent or more. Other services per user also increased in five carriers, in all cases by more than five percent. As with those for participating physicians, medical care services per user for non-participating physicians decreased in all carriers, with the decrease in seven of the carriers greater than five percent. Decreases in medical care services per user ranged from 2.2 percent in DC to a 11.7 percent decrease in North Carolina. Radiology services per user decreased at eight out of nine carriers and laboratory services per user decreased in seven out of nine. Pennsylvania, North Carolina and Texas had decreases in radiology services per user which were greater than five percent. Three carriers had decreases greater than ten percent in laboratory services per user.

Change in Volume - Summary

Based on the combined carrier data, there was no across the board increase in volume per user of services for either participating or non-participating physicians. The increases in services per user that did occur were in surgical types of service, and other services. For participants, there was a significant increase in claims and services per user in one carrier. There were significant increases in claims per user for each of the specialties, except cardiology, in at least one carrier and significant increases in services per user for half of the specialties in at least one carrier.

For non-participating physicians, no carriers had a significant increase in claims or

services per user. Half of the specialties had significant increases in claims per user in one carrier, and none had such increases in more than one carrier. Only three specialties had significant increases in services per user in at least one carrier.

(b) Changes in Mix

In addition to increasing the volume of services, physicians could react to the freeze by changing the mix of services provided and/or billed. If this occurred, one would expect to see significant increases in allowed charges per user beyond those which might be expected due to increases in claims or services per user. Increases in allowed charges per service could also be an indicator of changes in mix. One could also expect to see significant increases in submitted charges per user and in the reduction rate. However, for reasons outlined earlier, changes in submitted charges per user and changes in the reduction rate will only be examined for non-participating physicians.

Participating Physicians

(1) Allowed Charges Per User

Combined Carrier Data - Based on the combined data from nine carriers, there was a decrease in J-M 85 in allowed charges per user for all MD/DO specialties combined. No specialty had a significant increase.

Allowed charges per user, for all MD/DO specialties combined decreased by 9.0 percent in J-M 85 (Table 2A). As with claims and services per user, the 9.0 percent drop was the result of the number of users growing at a faster rate (18.3 percent) than total allowed charges (7.7 percent). During J-M 84, allowed charges per user declined by 0.6 percent. This was also due to the number of users of services (8.1 percent) growing faster than allowed charges (7.5 percent). Only one specialty,

anesthesiology, had an increase, but that increase was less than five percent (4.5 percent). That increase was probably the result of an increase in volume rather than a change in mix given the 9.1 percent increase in services per user.

Carrier Specific Data - Consistent with the decrease in allowed charges per user for the combined data, no carrier had a significant increase for all MD/DO specialties combined. Seven of the ten specialties, however, had increases of five percent or more in individual carriers.

Of the nine carriers, only Maryland showed an increase in allowed charges per service (4.3 percent) (Table 3A). As with anesthesiology in the combined data, this increase is probably the result of an increase in volume rather than a change in mix, given the 8.5 percent increase in claims per user and the 15.2 percent increase in services per user.

All of the carriers except New Jersey, had at least one specialty with an increase of five percent or greater. Seven of the ten specialties had such an increase in at least one carrier. Anesthesiology had an increase greater than five percent in four carriers; cardiology, radiology and pathology in three carriers; ophthalmology in two; and orthopedic surgery and general surgery in one. Of these increases, three of the four for anesthesiology and one of the three for radiology were due to volume changes. All of the seven specialties with significant increases except general surgery, had an increase of ten percent or more in one carrier. All of the increases for pathology were greater than ten percent.

It is interesting to note that although cardiology was the only specialty that did not have a significant increase in either claims or services per user in any carrier, it did have significant increases in allowed charges per user in three carriers. In both

North Carolina and Texas, there were significant increases in allowed charges per user (12.1 and 6.7 percent, respectively) while claims per user increased by less than one percent. In Iowa, for ophthalmology, there was a 20.1 percent increase in allowed charges per user while claims per user actually declined by 3.6 percent. These are examples of changes in mix.

(2) Allowed Charges Per User by Type of Service

Combined Carrier Data - Allowed charges per user increased for surgery, radiology and other services, while decreasing for medical care and laboratory services.

Although the combined carrier data showed a decline of 9.0 percent in allowed charges per user, the decrease did not occur for all types of services. Allowed charges per user of service increased for other services (3.7 percent), surgery (0.8 percent) and radiology (0.3 percent), while decreasing for medical care (14.0 percent) and laboratory (13.7 percent) (Table 2B).

Carrier Specific Data - Although there were increases and decreases by carrier in allowed charges per user for surgery, radiology and other services, all carriers had decreases for medical care and laboratory services.

While no carrier had a significant increase in allowed charges per user, there were increases by type of service for individual carriers. Four carriers had an increase in allowed charges per user for surgical services. Maryland, Georgia and Texas had significant increases (Table 3D). New Jersey was the only carrier that had a significant decrease. For radiology, three carriers had increases. Maryland and Delaware had significant increases. Iowa and New Jersey had significant decreases. For allowed charges per user for other services, five carriers had increases. While Maryland and D.C. had significant increases, Delaware, Georgia,

North Carolina and New Jersey all had decreases greater than ten percent.

No carriers had increases in allowed charges per user for either medical care or laboratory services. All of the decreases in allowed charges per user for medical care were greater than six percent, ranging from 6.3 percent (D.C.) to 18.5 percent (Delaware). For allowed charges per user for laboratory services, all of the decreases were 10 percent or greater except for Maryland, with a high of 49.8 percent in New Jersey.

(3) Allowed Charges per Service

Combined Carrier Data - Based on the combined data from the nine carriers, there was only a slight increase in allowed charges per service in J-M 85 for all MD/DO specialties combined. Only two specialties (cardiology, pathology) had significant increases.

Allowed charges per service for all MD/DO specialties combined increased from $37 in J-M 84 to $38 in J-M 85, or by 1.4 percent (Table 2D). The increase was due to the fact that total allowed charges increased faster (7.7 percent) than total services (6.2 percent). In J-M 84, allowed charges per service increased by 12.8 percent. During that time, allowed charges increased by 7.5 percent while services actually declined by 4.7 percent. Six of the ten specialties saw an increase in allowed charges per service; only two specialties, however, had significant increases. Cardiology increased by 5.5 percent and pathology increased by 52.6 percent. For both specialties, the increase in allowed charges per services was the result of allowed charges decreasing less than the number of services. The large pathology increase was driven by a 37.8 percent decrease in services, the largest decrease in services for any specialty.

In addition to changes in mix, one factor that might explain the increase in allowed charges per service is the direct billing provision for laboratory services under DEFRA. The allowed charges per service for the lab services billed, but not performed, by physicians during J-M 83 and 84 was probably less than the average for all other services. Its removal in J-M 85 could have increased the average allowed charges per service for the remaining services.

Carrier Specific Data - Consistent with the small increase in allowed charges per service, only one carrier (Texas) had a significant increase for all MD/DO specialties combined. Each of the ten specialties had an increase of five percent or more at individual carriers.

Although six of the nine carriers experienced increases in allowed charges per service, only Texas had a significant increase (14.1 percent) (Table 3F). Each specialties had significant increases in at least one carrier. Pathology had increases in six carriers; general surgery in four; internal medicine, cardiology, anesthesiology and radiology in two. Pathology had increases greater than ten percent at five carriers. Radiology and cardiology had such increases in two carriers; internal medicine, general surgery, orthopedic surgery and anesthesiology in one.

Non-Participating Physicians

(1) Allowed Charges Per User

Combined Carrier Data - Based on the combined data from nine carriers, there was a decrease in J-M 85 in allowed charges per user for all MD/DO specialties combined. Only one specialty had a significant increase.

Allowed charges per user for all MD/DO specialties combined declined by 3.7

percent in J-M 85 (Table 2A). This drop was due to the users of services increasing slightly (0.8 percent) while allowed charges declined (2.9 percent). The 3.7 percent decline in J-M 85 compares with a 3.0 percent increase during J-M 84. During that time, allowed charges were growing at a faster rate (9.9 percent) than were users of services (6.6 percent). Although four specialties had increases, only pathology had an increase that was greater than 5 percent (12.4 percent). Ophthalmology had a 4.6 percent increase.

Carrier Specific Data - Consistent with the decrease in allowed charges per user for the combined carrier data, no carrier had a significant increase for all MD/DO specialties combined. Six of the ten specialties had significant increases in at least one carrier.

Although two carriers showed increases in allowed charges per service for all MD/DO specialties combined, both of the increases were 2 percent or less (Table 3A). All of the carriers, except New Jersey and Georgia, had at least one specialty with an increase in allowed charges per user of five percent or greater. Seven of the ten specialties had such an increase in at least one carrier. Ophthalmology and pathology had increases greater than five percent in four carriers; general surgery in three carriers; anesthesiology, orthopedic surgery, cardiology and radiology in two carriers. Of these increases, the two for anesthesiology and one of the two for cardiology were due to volume changes.

At both Texas and Delaware, for ophthalmology, there were significant increases in allowed charges per user (11.6 and 10.1 percent, respectively), while claims per user increased a little more than two percent. Also, in Delaware, for orthopedic surgery there was a 14.8 percent increase in allowed charges per user while claims per user actually declined by 13.3 percent.

(2) Allowed Charges Per User by Type of Service

Combined Carrier Data - Allowed charges per user increased for surgery and for other services while decreasing for medical care, radiology and laboratory services.

Although the combined data showed a decline of 0.7 percent in allowed charges per user, there was not a decrease for all types of services. Allowed charges per user of services increased for other services (5.3 percent) and surgery (3.1 percent) while decreasing for medical care (10.1 percent), radiology (4.0 percent) and laboratory (8.5 percent) (Table 2B).

Carrier Specific Data - Carriers generally experienced increases in allowed charges per service for surgical services. There were increases and decreases by carrier for radiology and other services, while there were generally decreases for medical care and laboratory services.

While no carrier had a significant increase in allowed charges per user, there were increases for individual carriers by type of services. Six carriers had increases in allowed charges per service for surgical services, with Georgia and Texas having significant increases and no carrier having a significant decrease (Table 3D). Five carriers had increases for other services. Maryland and Texas had significant increases, while four carriers (Delaware, Georgia, North Carolina, and New Jersey) had decreases, all greater than eight percent. All carriers except Georgia had decreases greater than 19 percent. Four carriers had increases in allowed charges per user for radiology services. Maryland, D.C. and Delaware had significant increases, while only New Jersey had a significant decrease.

For allowed charges per user for medical care, except for the 12.4 percent increase in Iowa, all carriers showed a decrease. The range was from a 4.6 percent decrease

in Maryland to a 13.1 percent drop in Delaware. Finally, all carriers showed a decline in allowed charges per user for laboratory services. Except Maryland, all had significant decreases, ranging from a drop of 2.6 percent in Maryland to 39.4 percent in Iowa.

(3) Submitted Charges Per User

Combined Carrier Data - Based on the combined data from nine carriers, there was a decrease in J-M 85 in submitted charges per user for all MD/DO specialties combined. Three specialties had significant increases.

Submitted charges per user declined by 0.7 percent for all MD/DO specialties combined in J-M 85 (Table 2A). This drop was due to users of services growing slightly faster (0.8 percent) than submitted charges (0.1 percent). The 0.7 percent decline in J-M 85 compares with a 5.9 percent increase during J-M 84. During that time, submitted charges were growing at a faster rate (12.9 percent) than were users of services (6.6 percent). Submitted charges per user increased for seven specialties, three of which, ophthalmology, orthopedic surgery and anesthesiology, had increases of five percent or greater. The increase for ophthalmology was 7.4 percent.

Carrier Specific Data - Consistent with the decrease in submitted charges per user for the combined data, only one carrier had a significant increase for all MD/DO specialties combined. Seven of the ten specialties had significant increases in at least one carrier that were not due to increases in volume.

Although four carriers showed increases in submitted charges per user, only Maryland had an increase greater than five percent (6.3 percent). All of the carriers except Iowa had at least one specialty with an increase in submitted

charges per user of five percent or greater. Eight of the ten specialties had such an increase in at least one carrier. Ophthalmology had increases greater than five percent in six carriers; orthopedic surgery and pathology in five; anesthesiology and general surgery in three; cardiology and radiology in two carriers; and family practice in one carrier. The one increase for family practice and one of the three increases for anesthesiology were the result of volume increases.

(4) Reduction Rates

Combined Carrier Data - Based on the combined data from nine carriers, there was a significant increase in the reduction rate in J-M 85 for all MD/DO specialties combined. Seven specialties had significant increases.

The reduction rate for all MD/DO specialties combined increased from 29.8 percent to 31.9 percent or by 7.1 percent (Table 2C). This increase was almost identical to the 7 percent increase in J-M 84. All specialties, except pathology, saw an increase in the reduction rate. Seven of the ten specialties had significant increases, and in all cases these increases were greater than that experienced during J-M 84. Also, for each specialty the increase experienced in J-M 85 was less than that experienced by participating physicians. This is to be expected given that the submitted charges of participating physicians were not frozen.

In addition to increases in mix, one factor that could be behind the increase in the reduction rate is the direct billing provision for laboratory services under DEFRA. If the reduction rate for the laboratory services billed, but not performed, by physicians during J-M 83 and 84 was less than the average for all other services, its removal in J-M 85 could increase the average reduction rate for the remaining services.

Carrier Specific Data - Consistent with the increase in the reduction rate for the combined data, seven of the ten carriers had significant increases for all MD/DO specialties combined. All ten specialties had significant increases in at least one carrier.

All carriers except Iowa had increases in the reduction rate for all MD/DO specialties combined (Table 3E). While seven of the ten carriers had increases in the reduction rate of more than five percent, three (Maryland, Pennsylvania and New Jersey) had increases greater than ten percent. All of the ten specialties had increases in reduction rate of five percent or more in at least three carriers, and of 10 percent or more in at least one carrier. Ophthalmology had increases of ten percent or more in six carriers; internal medicine had such increases in five; family practice in four; cardiology, general practice, orthopedic surgery and pathology in three; and radiology in two.

(5) Allowed Charges per Service

Combined Carrier Data - Based on the combined data from the nine carriers, there was a significant increase in allowed charges per service in J-M 85 for all MD/DO specialties combined. Three specialties (general surgery, orthopedic surgery and pathology) had significant increases.

Allowed charges per service for all MD/DO specialties combined increased from $30 to $32 or by 5.8 percent (Table 2D). This increase, unlike that for participating physicians, was due to total allowed charges decreasing at a slower rate (2.9 percent) than total services (8.3 percent) (Table 2A). In J-M 84, allowed charges per service increased by 11.5 percent. During that time allowed charges increased by 9.9 percent, while the number of services declined by 1.5 percent. Seven of the ten specialties experienced increases in J-M 85 with three specialties (general

surgery, orthopedic surgery and pathology) having significant increases. General surgery had a 10.1 percent increase, orthopedic surgery increased by 6.1 percent and pathology increased by 83.1 percent. As with those for participating physicians, the increases for non-participating physicians were the result of services declining faster than allowed charges. However, pathology saw a 3.1 percent increase in allowed charges while services declined 43.7 percent. In three of the ten specialties (general surgery, anesthesiology and radiology), the J-M 85 change was greater than J-M 84. As discussed under participating physicians, part of the increase in allowed charges per service could be due to the direct billing provision for laboratory services.

Carrier Specific Data - Consistent with the significant increase in allowed charges per service for the combined carrier data, three carriers had significant increases for all MD/DO specialties combined. Eight of the ten specialties had increases of five percent or more in one or more carriers.

All carriers except New Jersey, experienced an increase in allowed charges per service (Table 3F). Significant increases occurred in Iowa (14.9 percent), Maryland (7.0 percent) and Texas (10.3 percent). All the specialties, except family practice and internal medicine, had significant increases in at least one carrier. Pathology had significant increases in six carriers; general surgery had such increases in five; cardiology and orthopedic surgery in four; ophthalmology and radiology in three. For another four specialties, cardiology, ophthalmology, pathology and radiology, allowed charges per service increased in seven carriers. For both general surgery and pathology, five or more carriers experienced increases of five percent or more. Pathology had increases in allowed charges per service greater than ten percent in six carriers. Radiology had such increases in three carriers; cardiology, general surgery and orthopedic surgery had increases in two carriers.

Changes in Mix-Summary

There was no across the board change in mix of services provided and/or billed that resulted in higher allowed charges per user of services for either participants or non-participants. However, there were increases by type of service for surgical services and for other services.

For participating physicians, there were significant increases in allowed charges per user for seven of the ten specialties (anesthesiology, cardiology, radiology, pathology, ophthalmology, orthopedic surgery and general surgery) in at least one carrier. All specialties had significant increases in allowed charges per services in at least one carrier.

For non-participating physicians, there was a significant increase for pathology for the combined carrier data as well as significant increases in at least one carrier for six of the ten specialties (ophthalmology, pathology, general surgery, orthopedic surgery, cardiology and radiology). In addition, there were significant increases both in allowed charges per service and in the reduction rate for the combined carrier data. Similarly, all ten specialties had significant increases in the reduction rate in individual carriers. All specialties, except family practice and internal medicine, had significant increases in allowed charges per user in individual carriers.

(c) Changes in Participation and Assignment

(1) Market Share for Participating Physicians

Combined Carrier Data - Based on the combined data from the nine carriers, there was a significant increase in the market share for participating physicians in J-M 85 for all MD/DO specialties combined. Five specialties had significant increases.

The market share for participating physicians increased from 39.5 percent in J-M 84 to 42 percent in J-M 85, an increase of 6.4 percent (Table 2F). This 6.4 percent increase in market share in J-M 85 came after a slight decline in the previous year (1.3 percent). With the exception of cardiology and pathology, all specialties experienced an increase in market share for participating physicians. Five specialties, general practice, family practice, internal medicine, ophthalmology and anesthesiology had significant increases, all of which were greater than nine percent.

The market share for participating physicians increased because allowed charges for participating physicians grew by 7.7 percent, while for non-participating physicians it declined by 2.9 percent. In J-M 84, allowed charges for participating physicians lagged behind the growth for non-participating physicians (7.5 percent and 9.9 percent, respectively). The differential growth in allowed charges in J-M 85 for participating and non-participating physicians could be due to a number of factors. As was discussed earlier, the interaction of the participation program with beneficiary behavior in submitting assigned claims could have caused an increase in the flow of program outlays for services provided by participants during J-M 85. Thus, the increase in market share for participating physicians could be a cash flow effect rather than a real increase in market share. If the increase in the market share for participating physicians rate is real rather than a function of a cash flow increase, it could be due to either participating physicians making a concerted effort to increase their Medicare caseload and/or Medicare beneficiaries taking participation status into account when selecting a physician. Most probably, the increase was due to all of the above. When data is available based on date of service, it will be possible to obtain a more precise picture of the impact of the participation program.

Carrier Specific Data - Consistent with the significant increase in the market share for participating physicians for the combined carrier data, six carriers had a significant increases for all MD/DO specialties combined. Each of the specialties had an increase of five percent or more in at least one carrier.

The market share for participating physicians increased at each of the carriers (Table 3G). Six carriers (Iowa, Maryland, Delaware, Georgia, North Carolina and Texas) had significant increases, all 6.5 percent or greater. The carriers with the highest market share for participating physicians in J-M 84 were the ones who posted the smallest gains in J-M 85. In J-M 85, all nine carriers had market share for participating physicians above 25 percent and four were above 50 percent. For all carriers, except DC, the J-M 85 increase was greater than the increase experienced in J-M 84. Five of the carriers showed increases ranging from 4.8 percent to 7.8 percent in J-M 85, after having no change or a decline during J-M 84.

Each of the ten specialties had significant increases in the market share for participating physicians in at least one carrier. Internal medicine had such increases in eight carriers; general practice and ophthalmology in seven; family practice, general surgery, anesthesiology in five; orthopedic surgery in four; pathology in three; and radiology and cardiology in two. Of these increases, ophthamology had increases greater than ten percent in five carriers; internal medicine, general practice and anesthesiology in four carriers; family practice and orthopedic surgery in three; radiology in two; cardiology and pathology in one.

(2) Assignment Rates for Non-Participants

Combined Carrier Data - Based on the combined data from the nine carriers, there was a slight decline in the assignment rate in J-M 85 for all MD/DO specialties

combined. While no specialties had significant increases, four had significant decreases.

The assignment rate for non-participating physicians dropped slightly from 43 percent of allowed charges in J-M 84 to 42.2 percent in J-M 85 or by 1.9 percent (Table 2G). During J-M 84, the assignment rate had decreased by 3 percent with the decrease occurring in all specialties except for ophthalmology, orthopedic surgery and anesthesiology, which had minor increases. The decrease was greater than five percent for general practice (6.0 percent), radiology (6.2 percent), pathology (10.7 percent) and family practice (16.6 percent). For all of the non hospital-based specialties, either the drop in assignment rates were greater in J-M 85 than in J-M 84 or the increase was less than that experienced in J-M 84.

Cardiology and pathology were the only specialties that experienced decreases both in market share for participating physicians and assignment rates for non-participating physicians. Ophthalmology, orthopedic surgery and anesthesiology had increases in both, while the remaining specialties had increases in market share for participating physicians and decreases in assignment rates for non-participants.

Carrier Specific Data - Consistent with the decline in the non-participating physicians assignment rate for the combined carrier data, three carriers had significant decreases and only one carrier had a significant increase for all MD/DO specialties combined. Although there were instances of both significant increases and decreases for almost all specialties in individual carriers, there were generally more decreases than increases.

Three carriers had substantial decreases in assignment rates, two had increases and the rest had virtually no change in assignment rates (Table 3H). The carriers with

substantial decreases in assignment rates (12.3 to 24.4 percent) were also the carriers that had the highest market share for participating physicians. Physicians in these carriers may have responded to the fee freeze by decreasing their acceptance of assignment in order to increase the number of claims on which extra billing could be collected.

The four carriers with relatively low market share for participating physicians (24.6 to 36.3 percent) had virtually no change in assignment rates for non-participating physicians. However, in J-M 84, all four carriers experienced decreases in assignment rates. For three of the carriers, the decreases were greater than three percent and for one carrier it was 12.4 percent. Thus, the participation program, while not causing an increase in acceptance of assignment by non-participating physicians, may have put a brake on the decline in assignment rates.

The two carriers with increases in assignment rates are at different ends of the spectrum in regard to the market share for participating physicians. Iowa had the lowest market share for participating physicians in J-M 84 (22.9 percent) and the largest percent change in J-M 85 (11.9 percent). It also had the largest increase in assignment rates for non-participating physicians (14.1 percent). Thus, in Iowa, it appears that the participating physician program caused an increase in assignment rates for non-participating physicians.

Maryland had a market share for participating physicians greater than 50 percent (50.2 percent) in J-M 84 and had one of the largest increases in assignment rates for non-participating physicians in J-M 85 (7.8 percent). In J-M 84, Maryland also had the largest assignment rate for non-participating physicians (60.9 percent) and this figure increased another 2.5 percent in J-M 85.

Each of the ten specialties except anesthesiology had significant decreases in assignment rates for non-participating physicians in in least one of the carriers. Pathology had decreases greater than ten percent in five carriers; radiology in four; family practice and ophthalmology in three; general practice, internal medicine, cardiology in two; and general surgery and orthopedic surgery in one.

However, all specialties except radiology, had significant increases in assignment rates for non-participants in at least one carrier. Ophthalmology had increases greater than ten percent in five carriers; general practice, cardiology, general surgery and pathology in two carriers; and family practice, orthopedic surgery, anesthesiology in one carrier.

Ophthalmology had significant increases in both market share for participating physicians and assignment rate for non-participating physicians in five carriers. No other specialty had increases in both at more than two carriers. General practice had significant increases in market share for participating physicians and decreases in assignment rate for non-participating physicians at five carriers. Family practice and internal medicine had the same relationship in three carriers. Anesthesiology and internal medicine had significant increases in market share for participating physicians but no significant changes in assignment rates for non-participating physicians in five and four carriers, respectively. Radiology and cardiology had no significant change in market share for participating physicians and significiant decreases in assignment rates for non-participating physicians in four and three carriers, respectively.

Changes in Market Share for Participating Physicians and Assignment for Non-Participating Physicians -Summary

The market share for participating physicians increased in all carriers and in

almost all specialties. The change in assignment rate for non-participating physicians varied among the carriers. Carriers having high market shares for participating physicians also experienced decreases in assignment rates for non-participating physicians. Carriers with low market shares for participating physicians showed no change in assignment rates for non-participating physicians. Ophthalmology was the only specialty to show a significant increase in both market share for participating physicians and assignment rates for non-participating physicians in more than half of the carriers.

Detailed Listing of Tables

Table 1 - Quarterly/Annual Outlays from Monthly Treasury Reports

Table 2 - All Sample Carriers Combined

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Table 2B - Services and Allowed Charges Per User by Type of Service by Participation Status
Table 2C - Reduction Rates, All Nine Carriers Combined, Percent Change in the Reduction Rate by Participation/Assignment Status
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Table 2E - Percent Distribution of Allowed Charges by Specialty, All Nine Carriers Combined, Percent Change in the Distribution of Allowed Charges by Specialty by Participation Status
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Table 3 - Individual Sample Carriers

Table 3A - Percent Change in Per User Claims, Services, Submitted Charges and Allowed Charges by Participation/Assignment Status
Table 3B - Percent Change in Claims, Services, Submitted Charges, and Allowed Charges by Participation Status
Table 3C - Percent Change in Services Per User of Services by Type of Service, by Participaion Status
Table 3D - Percent Change in Allowed Charges Per User of Services by Type of Service, by Participation Status
Table 3E - Reduction Rate and Percent Change in the Reduction Rate by Participation Status
Table 3F - Allowed Charges Per Service and Percent Change in Allowed Charges Per Service by Participation Status
Table 3G - Participation Rate and Percent Change in Participation Rate
Table 3H - Assignment Rate for Non-participating Physicians and Percent Change in Assignment Rate

TABLE 2

ALL SAMPLE CARRIERS COMBINED

TABLE 2A

PERCENT CHANGE IN ABSOLUTE AND PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

ALL NINE CARRIERS COMBINED

	Participation Status				Non-Participants			
	Participants		Non-Participants		Assigned		Unassigned	
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
ALL MD/DO SPECIALTIES COMBINED ABSOLUTE								
Claims	4.0%	14.6%	3.9%	-0.5%	-1.4%	-2.8%	6.9%	0.7%
Services	-4.7%	6.2%	-1.5%	-8.3%	-13.7%	-12.3%	8.3%	-5.7%
Submitted Charges	9.9%	14.0%	12.9%	0.1%	10.1%	-2.0%	15.2%	1.6%
Allowed Charges	7.5%	7.7%	9.9%	-2.9%	6.6%	-4.8%	12.4%	-1.5%
Users of Services	8.1%	18.3%	6.6%	0.8%	1.6%	4.5%	9.6%	2.8%
ALL MD/DO SPECIALTIES COMBINED PER USER OF SERVICE								
Claims	-3.8%	-3.2%	-2.6%	-1.3%	-3.0%	-6.9%	-2.5%	-2.1%
Services	-11.9%	-10.2%	-7.6%	-9.0%	-15.1%	-16.1%	-1.2%	-8.3%
Submitted Charges	1.7%	-3.7%	5.9%	-0.7%	8.3%	-6.2%	5.1%	-1.1%
Allowed Charges	-0.6%	-9.0%	3.0%	-3.7%	4.9%	-8.9%	2.6%	-4.2%
GENERAL PRACTICE ABSOLUTE								
Claims	4.6%	12.9%	4.8%	-2.9%	3.7%	-5.7%	5.3%	-1.6%
Services	3.7%	-0.3%	5.8%	-12.3%	-0.5%	-16.7%	9.1%	-10.2%
Submitted Charges	8.7%	5.4%	11.2%	-9.9%	8.3%	-15.0%	13.0%	-6.8%
Allowed Charges	8.5%	-0.4%	9.5%	-13.0%	6.0%	-18.2%	11.6%	-9.9%
Users of Services	6.8%	18.9%	5.5%	-3.0%	2.8%	-0.8%	6.8%	-0.7%
GENERAL PRACTICE PER USER OF SERVICE								
Claims	-2.0%	-5.0%	-0.7%	0.1%	0.9%	-5.0%	-1.4%	-1.0%
Services	-2.9%	-16.2%	0.2%	-9.6%	-3.3%	-16.1%	2.2%	-9.5%
Submitted Charges	1.8%	-11.4%	5.4%	-7.1%	5.4%	-14.3%	5.8%	-6.2%
Allowed Charges	1.6%	-16.3%	3.7%	-10.3%	3.1%	-17.6%	4.5%	-9.2%

TABLE 2A

PERCENT CHANGE IN ABSOLUTE AND PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

ALL NINE CARRIERS COMBINED

Jan-Mar Quarter	Participation Status: Participants 84/83	Participants 85/84	Non-Participants 84/83	Non-Participants 85/84	Non-Participants: Assigned 84/83	Non-Participants: Assigned 85/84	Non-Participants: Unassigned 84/83	Non-Participants: Unassigned 85/84
FAMILY PRACTICE				**ABSOLUTE**				
Claims	6.9%	20.4%	7.0%	2.5%	4.1%	-0.2%	7.8%	3.3%
Services	2.4%	11.2%	5.8%	-7.4%	0.2%	-16.3%	8.0%	-4.2%
Submitted Charges	5.8%	17.5%	12.1%	-5.6%	8.6%	-20.7%	14.1%	2.0%
Allowed Charges	6.5%	9.8%	11.0%	-8.2%	7.0%	-23.5%	13.0%	-0.7%
Users of Services	9.5%	34.7%	9.4%	2.8%	6.7%	26.4%	10.6%	5.9%
FAMILY PRACTICE				**PER USER OF SERVICE**				
Claims	-2.4%	-10.6%	-2.2%	-0.3%	-2.5%	-21.0%	-2.5%	-2.5%
Services	-6.5%	-17.4%	-3.3%	-10.0%	-6.1%	-33.7%	-2.4%	-9.6%
Submitted Charges	-3.4%	-12.7%	2.5%	-8.2%	1.7%	-37.3%	3.2%	-3.7%
Allowed Charges	-2.8%	-18.5%	1.4%	-10.7%	0.3%	-39.5%	2.2%	-6.3%
INTERNAL MEDICINE				**ABSOLUTE**				
Claims	2.4%	18.1%	6.0%	1.1%	4.1%	-1.3%	6.7%	2.0%
Services	-1.8%	5.5%	5.9%	-7.1%	3.0%	-11.2%	7.5%	-5.0%
Submitted Charges	4.3%	12.9%	12.0%	-4.6%	11.6%	-9.2%	12.3%	-1.5%
Allowed Charges	3.1%	5.7%	9.7%	-8.1%	9.0%	-12.3%	10.1%	-5.2%
Users of Services	7.0%	19.1%	7.7%	1.8%	6.0%	7.3%	8.1%	3.9%
INTERNAL MEDICINE				**PER USER OF SERVICE**				
Claims	-4.3%	-0.8%	-1.6%	-0.7%	-1.8%	-8.0%	-1.3%	-1.8%
Services	-8.3%	-11.4%	-1.6%	-8.8%	-2.9%	-17.3%	-0.6%	-8.6%
Submitted Charges	-2.6%	-5.1%	4.0%	-6.3%	5.2%	-15.4%	3.9%	-5.2%
Allowed Charges	-3.7%	-11.2%	1.8%	-9.7%	2.8%	-18.2%	1.9%	-8.7%

TABLE 2A

PERCENT CHANGE IN ABSOLUTE AND PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

ALL NINE CARRIERS COMBINED

	Participation Status				Non-Participants			
	Participants		Non-Participants		Assigned		Unassigned	
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
	CARDIOLOGY				ABSOLUTE			
Claims	13.6%	2.5%	11.4%	1.4%	9.0%	-6.4%	13.0%	6.4%
Services	7.7%	-5.6%	6.9%	-2.9%	4.0%	-9.3%	9.5%	2.6%
Submitted Charges	13.7%	4.8%	13.7%	4.8%	10.3%	-0.8%	17.4%	10.5%
Allowed Charges	9.7%	-0.5%	12.5%	1.3%	8.7%	-3.7%	16.5%	6.1%
Users of Services	17.2%	4.3%	17.5%	1.3%	16.6%	-1.7%	17.4%	9.2%
	CARDIOLOGY				PER USER OF SERVICE			
Claims	-3.1%	-1.7%	-5.1%	0.1%	-6.5%	-4.7%	-3.7%	-2.6%
Services	-8.1%	-9.5%	-9.0%	-4.1%	-10.8%	-7.7%	-6.7%	-6.1%
Submitted Charges	-2.9%	0.5%	-3.2%	3.5%	-5.4%	0.9%	.0%	1.2%
Allowed Charges	-6.3%	-4.5%	-4.3%	-0.1%	-6.8%	-2.0%	-0.8%	-2.8%
	GENERAL SURGERY				ABSOLUTE			
Claims	0.8%	11.7%	3.6%	-3.1%	2.5%	-3.5%	4.4%	-2.9%
Services	-1.7%	1.8%	4.0%	-11.4%	1.6%	-12.1%	5.8%	-11.0%
Submitted Charges	5.9%	11.3%	9.3%	1.0%	10.3%	-0.5%	8.4%	2.4%
Allowed Charges	5.3%	5.4%	8.3%	-2.4%	8.7%	-3.3%	8.0%	-1.7%
Users of Services	2.7%	10.3%	4.0%	-3.1%	4.0%	-2.7%	3.9%	-1.9%
	GENERAL SURGERY				PER USER OF SERVICE			
Claims	-1.9%	1.3%	-0.4%	.0%	-1.4%	-0.9%	0.5%	-1.0%
Services	-4.3%	-7.7%	.0%	-8.6%	-2.3%	-9.7%	1.9%	-9.3%
Submitted Charges	3.1%	0.8%	5.0%	4.2%	6.1%	2.2%	4.3%	4.3%
Allowed Charges	2.5%	-4.4%	4.1%	0.7%	4.5%	-0.6%	4.0%	0.2%

TABLE 2A

PERCENT CHANGE IN ABSOLUTE AND PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

ALL NINE CARRIERS COMBINED

Jan-Mar Quarter	Participation Status: Participants 84/83	Participants 85/84	Non-Participants 84/83	Non-Participants 85/84	Non-Participants: Assigned 84/83	Non-Participants: Assigned 85/84	Non-Participants: Unassigned 84/83	Non-Participants: Unassigned 85/84
	OPHTHAMOLOGY			ABSOLUTE				
Claims	12.1%	31.7%	10.1%	3.6%	15.6%	11.0%	8.6%	1.3%
Services	14.1%	31.6%	13.7%	3.1%	18.2%	12.3%	12.4%	0.2%
Submitted Charges	28.8%	31.2%	24.6%	9.8%	30.1%	11.9%	21.1%	8.3%
Allowed Charges	26.4%	23.3%	23.3%	6.9%	29.3%	9.0%	19.5%	5.4%
Users of Services	11.6%	32.8%	10.7%	2.2%	15.3%	14.5%	9.6%	0.5%
	OPHTHAMOLOGY			PER USER OF SERVICE				
Claims	0.5%	-0.8%	-0.5%	1.4%	0.3%	-3.1%	-1.0%	0.8%
Services	2.2%	-0.9%	2.7%	0.9%	2.5%	-1.9%	2.5%	-0.2%
Submitted Charges	15.4%	-1.1%	12.6%	7.4%	12.8%	-2.2%	10.5%	7.8%
Allowed Charges	13.3%	-7.1%	11.4%	4.6%	12.2%	-4.8%	9.0%	4.9%
	ORTHOPEDIC SURGERY			ABSOLUTE				
Claims	5.6%	7.0%	7.4%	-1.7%	8.5%	0.2%	6.9%	-2.5%
Services	3.7%	1.5%	5.4%	-6.4%	7.8%	-6.7%	4.4%	-6.3%
Submitted Charges	11.0%	12.1%	17.2%	2.3%	19.5%	2.2%	15.8%	2.4%
Allowed Charges	9.6%	4.8%	15.7%	-0.8%	17.4%	-0.7%	14.7%	-0.8%
Users of Services	6.2%	6.4%	7.5%	-2.9%	8.7%	1.7%	6.7%	-2.6%
	ORTHOPEDIC SURGERY			PER USER OF SERVICE				
Claims	-0.6%	0.5%	-0.1%	1.2%	-0.3%	-1.5%	0.2%	0.1%
Services	-2.3%	-4.6%	-1.9%	-3.7%	-0.9%	-8.2%	-2.2%	-3.8%
Submitted Charges	4.5%	5.3%	9.0%	5.3%	9.9%	0.5%	8.5%	5.2%
Allowed Charges	3.2%	-1.6%	7.6%	2.2%	7.9%	-2.4%	7.5%	1.9%

TABLE 2A

PERCENT CHANGE IN ABSOLUTE AND PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

ALL NINE CARRIERS COMBINED

	Participation Status				Non-Participants			
	Participants		Non-Participants		Assigned		Unassigned	
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
	ANESTHESIOLOGY				ABSOLUTE			
Claims	6.0%	9.7%	7.7%	-1.8%	3.0%	0.6%	11.4%	-3.6%
Services	-4.3%	20.2%	.0%	-2.8%	-3.7%	1.6%	3.0%	-6.2%
Submitted Charges	16.7%	20.2%	17.2%	2.5%	10.5%	6.7%	22.5%	-0.5%
Allowed Charges	8.3%	15.1%	2.4%	.0%	-4.8%	4.3%	8.2%	-3.1%
Users of Services	6.2%	10.2%	8.1%	-2.4%	3.4%	0.5%	11.8%	-4.1%
	ANESTHESIOLOGY				PER USER OF SERVICE			
Claims	-0.1%	-0.4%	-0.4%	0.6%	-0.4%	0.1%	-0.4%	0.5%
Services	-9.9%	9.1%	-7.5%	-0.4%	-6.8%	1.1%	-7.9%	-2.2%
Submitted Charges	9.9%	9.1%	8.4%	5.0%	6.8%	6.1%	9.6%	3.8%
Allowed Charges	2.0%	4.5%	-5.3%	2.5%	-7.9%	3.8%	-3.2%	1.0%
	PATHOLOGY				ABSOLUTE			
Claims	-65.8%	-11.9%	-55.9%	-17.1%	-66.8%	-20.1%	-5.0%	-12.3%
Services	-82.3%	-37.8%	-85.2%	-43.7%	-87.7%	-52.7%	-67.3%	-18.4%
Submitted Charges	-47.0%	-1.5%	-45.4%	-5.9%	-61.9%	-16.3%	41.1%	8.9%
Allowed Charges	-53.0%	-5.0%	-58.4%	3.1%	-70.3%	-7.9%	7.8%	20.0%
Users of Services	-31.5%	-3.1%	-39.4%	-8.2%	-61.1%	-8.5%	32.7%	-7.9%
	PATHOLOGY				PER USER OF SERVICE			
Claims	-50.1%	-9.1%	-27.2%	-9.7%	-14.7%	-12.7%	-28.4%	-4.7%
Services	-74.2%	-35.8%	-75.7%	-38.6%	-68.3%	-48.3%	-75.4%	-11.3%
Submitted Charges	-22.6%	1.6%	-9.9%	2.6%	-2.1%	-8.4%	6.4%	18.3%
Allowed Charges	-31.4%	-2.0%	-31.4%	12.4%	-23.8%	0.7%	-18.8%	30.4%

TABLE 2A

PERCENT CHANGE IN ABSOLUTE AND PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

ALL NINE CARRIERS COMBINED

Jan-Mar Quarter	Participation Status: Participants 84/83	Participants 85/84	Non-Participants 84/83	Non-Participants 85/84	Non-Participants: Assigned 84/83	Non-Participants: Assigned 85/84	Non-Participants: Unassigned 84/83	Non-Participants: Unassigned 85/84
	RADIOLOGY				ABSOLUTE			
Claims	16.9%	5.0%	10.1%	-6.7%	-8.1%	-12.6%	37.2%	-0.8%
Services	12.7%	0.9%	8.1%	-8.5%	-9.0%	-13.7%	33.6%	-3.1%
Submitted Charges	21.2%	8.2%	14.5%	-4.8%	-1.6%	-9.9%	36.1%	0.2%
Allowed Charges	14.3%	3.3%	5.8%	-6.7%	-9.8%	-12.5%	26.9%	-1.1%
Users of Services	14.6%	5.5%	11.0%	-5.2%	-6.9%	-11.9%	36.0%	1.7%
	RADIOLOGY				PER USER OF SERVICE			
Claims	2.0%	-0.4%	-0.8%	-1.5%	-1.3%	-0.8%	0.9%	-2.4%
Services	-1.6%	-4.3%	-2.6%	-3.5%	-2.3%	-2.0%	-1.8%	-4.7%
Submitted Charges	5.7%	2.6%	3.1%	0.5%	5.7%	2.3%	.0%	-1.5%
Allowed Charges	-0.3%	-2.0%	-4.7%	-1.5%	-3.2%	-0.7%	-6.7%	-2.7%

SERVICES AND ALLOWED CHARGES PER USER BY
TYPE OF SERVICE BY PARTICIPATION/ASSIGNMENT

ALL NINE CARRIERS COMBINED

	Participation Status					
	Participants			Non-Participants		
Jan-Mar Quarter	83	84	85	83	84	85
SERVICES PER USER						
Medical Care	5.4	5.2	4.4	5.7	5.7	5.1
Surgery	1.7	1.7	1.8	1.7	1.7	1.7
Radiology	3.1	3.1	2.9	2.8	2.7	2.6
Laboratory	5.8	3.4	2.9	4.9	3.3	3.0
Other	4.1	4.0	4.9	4.7	4.6	4.8
ALLOWED CHARGES PER USER						
Medical Care	$125	$124	$107	$110	$114	$105
Surgery	$463	$485	$489	$393	$423	$436
Radiology	$94	$95	$95	$78	$78	$76
Laboratory	$50	$40	$31	$38	$34	$28
Other	$160	$166	$172	$160	$157	$166

	Non-Participants					
	Assigned			Unassigned		
Jan-Mar Quarter	83	84	85	83	84	85
SERVICES PER USER						
Medical Care	6.5	6.3	5.0	5.0	5.0	4.6
Surgery	1.7	1.7	1.7	1.6	1.7	1.7
Radiology	3.1	3.0	2.9	2.4	2.4	2.3
Laboratory	8.0	3.4	2.8	3.3	3.1	2.9
Other	6.7	6.6	6.7	2.8	2.6	2.7
ALLOWED CHARGES PER USER						
Medical Care	$138	$142	$117	$90	$94	$86
Surgery	$455	$495	$516	$348	$372	$377
Radiology	$84	$84	$82	$70	$71	$69
Laboratory	$52	$40	$33	$30	$31	$25
Other	$175	$172	$178	$135	$133	$140

TABLE 2B

PERCENT CHANGE IN SERVICES AND ALLOWED CHARGES PER USER OF SERVICES BY TYPE OF SERVICE BY PARTICIPATION/ASSIGNMENT STATUS

ALL NINE CARRIERS COMBINED

	Participation Status			
	Participants		Non-Participants	
Jan-Mar Quarter	84/83	85/84	84/83	85/84
SERVICES PER USER				
Medical Care	-5.2%	-14.0%	-0.2%	-10.1%
Surgery	-0.1%	2.9%	1.7%	0.8%
Radiology	-1.6%	-4.3%	-3.0%	-4.0%
Laboratory	-42.0%	-13.7%	-32.9%	-8.5%
Other	-1.2%	21.0%	-2.0%	2.2%
ALLOWED CHARGES PER USER				
Medical Care	-1.4%	-13.3%	3.8%	-7.7%
Surgery	4.8%	0.8%	7.6%	3.1%
Radiology	1.1%	0.3%	-0.6%	-2.4%
Laboratory	-20.8%	-21.3%	-10.4%	-17.7%
Other	3.8%	3.7%	-1.5%	5.3%

	Non-Participants			
	Assigned		Unassigned	
Jan-Mar Quarter	83	84	83	84
SERVICES PER USER				
Medical Care	-2.2%	-20.3%	1.1%	-8.5%
Surgery	1.0%	0.3%	2.5%	-0.1%
Radiology	-4.0%	-3.4%	1.6%	-4.2%
Laboratory	-57.3%	-18.1%	-5.6%	-6.7%
Other	-0.9%	0.6%	-4.3%	2.0%
ALLOWED CHARGES PER USER				
Medical Care	3.4%	-17.4%	4.3%	-5.9%
Surgery	8.8%	4.3%	7.0%	1.2%
Radiology	0.4%	-2.7%	1.2%	-2.3%
Laboratory	-23.5%	-18.8%	2.5%	-19.4%
Other	-1.6%	3.5%	-1.0%	4.7%

TABLE 2C

REDUCTION RATES 1/

ALL NINE CARRIERS COMBINED

Participation Status

Jan-Mar Quarter	Participants			Non-Participants		
	83	84	85	83	84	85
ALL MD/DO SPECIALTIES COMBINED	26.4%	28.0%	32.0%	27.8%	29.8%	31.9%
GENERAL PRACTICE	27.5%	27.7%	31.7%	28.4%	29.5%	31.9%
FAMILY PRACTICE	22.9%	22.4%	27.5%	23.8%	24.6%	26.7%
INTERNAL MEDICINE	23.9%	24.7%	29.6%	27.1%	28.7%	31.2%
CARDIOLOGY	24.3%	26.9%	30.6%	25.4%	26.2%	28.7%
GENERAL SURGERY	30.1%	30.5%	34.1%	30.4%	31.0%	33.4%
OPHTHALMOLOGY	22.9%	24.3%	28.9%	22.3%	23.2%	25.2%
ORTHOPEDIC SURGERY	27.6%	28.5%	33.1%	30.2%	31.1%	33.2%
ANESTHESIOLOGY	38.3%	42.7%	45.2%	34.9%	43.2%	44.6%
PATHOLOGY	23.7%	32.3%	34.7%	26.1%	43.7%	38.4%
RADIOLOGY	22.7%	27.1%	30.4%	25.4%	31.1%	32.5%

1/ The reduction rate is the percent amount that actual charges are reduced when payment is made.

TABLE 2C

PERCENT CHANGE IN REDUCTION RATES BY PARTICIPATION/ASSIGNMENT STATUS

ALL NINE CARRIERS COMBINED

Participation Status

Jan-Mar Quarter	Participants		Non-Participants	
	84/83	85/84	84/83	85/84
ALL MD/DO SPECIALTIES COMBINED	6.1%	14.1%	7.0%	7.1%
GENERAL PRACTICE	0.5%	14.4%	3.9%	8.1%
FAMILY PRACTICE	-2.2%	22.7%	3.3%	8.4%
INTERNAL MEDICINE	3.8%	19.5%	5.7%	9.0%
CARDIOLOGY	11.0%	13.6%	3.2%	9.6%
GENERAL SURGERY	1.2%	12.0%	2.0%	7.6%
OPHTHALMOLOGY	6.3%	18.8%	3.7%	8.8%
ORTHOPEDIC SURGERY	3.2%	16.3%	2.9%	6.7%
ANESTHESIOLOGY	11.6%	5.7%	23.5%	3.2%
PATHOLOGY	36.6%	7.4%	67.7%	-12.3%
RADIOLOGY	19.3%	12.2%	22.3%	4.4%

TABLE 2D

ALLOWED CHARGES PER SERVICE

ALL NINE CARRIERS COMBINED

Participation Status

Jan-Mar Quarter	Participants			Non-Participants		
	83	84	85	83	84	85
ALL MD/DO SPECIALTIES COMBINED	$33	$37	$38	$27	$30	$32
GENERAL PRACTICE	$16	$16	$16	$14	$15	$15
FAMILY PRACTICE	$19	$19	$19	$16	$17	$16
INTERNAL MEDICINE	$26	$27	$27	$21	$22	$22
CARDIOLOGY	$41	$42	$44	$36	$38	$39
GENERAL SURGERY	$89	$95	$99	$68	$71	$78
OPHTHALMOLOGY	$114	$126	$118	$95	$103	$107
ORTHOPEDIC SURGERY	$89	$94	$97	$78	$86	$91
ANESTHESIOLOGY	$39	$44	$42	$82	$83	$86
PATHOLOGY	$6	$16	$25	$5	$13	$24
RADIOLOGY	$30	$30	$31	$28	$27	$28

TABLE 2D

PERCENT CHANGE IN ALLOWED CHARGES PER SERVICE
BY PARTICIPATION/ASSIGNMENT STATUS

ALL NINE CARRIERS COMBINED

Jan-Mar Quarter	Participation Status: Participants 84/83	Participants 85/84	Non-Participants 84/83	Non-Participants 85/84
ALL MD/DO SPECIALTIES COMBINED	12.8%	1.4%	11.5%	5.8%
GENERAL PRACTICE	4.6%	-0.1%	3.5%	-0.8%
FAMILY PRACTICE	4.0%	-1.3%	4.9%	-0.9%
INTERNAL MEDICINE	5.0%	0.2%	3.5%	-1.0%
CARDIOLOGY	1.9%	5.5%	5.2%	4.2%
GENERAL SURGERY	7.1%	3.5%	4.1%	10.1%
OPHTHALMOLOGY	10.8%	-6.3%	8.4%	3.6%
ORTHOPEDIC SURGERY	5.7%	3.2%	9.8%	6.1%
ANESTHESIOLOGY	13.2%	-4.2%	2.4%	2.9%
PATHOLOGY	165.9%	52.6%	181.7%	83.1%
RADIOLOGY	1.4%	2.4%	-2.1%	2.0%

TABLE 2E

PERCENT DISTRIBUTION OF ALLOWED CHARGES BY SPECIALTY

ALL NINE CARRIERS COMBINED

Participation Status

Jan-Mar Quarter	Participants			Non-Participants			TOTAL		
	83	84	85				83	84	85
GENERAL PRACTICE	3.14%	3.12%	3.10%	8.48%	8.51%	7.39%	11.6%	11.6%	10.5%
FAMILY PRACTICE	1.43%	1.40%	1.53%	2.25%	2.29%	2.10%	3.7%	3.7%	3.6%
INTERNAL MEDICINE	10.34%	9.77%	10.31%	17.27%	17.36%	15.92%	27.6%	27.1%	26.2%
CARDIOLOGY	3.28%	3.30%	3.28%	3.45%	3.56%	3.59%	6.7%	6.9%	6.9%
GENERAL SURGERY	5.68%	5.49%	5.77%	6.59%	6.55%	6.37%	12.3%	12.0%	12.1%
OPHTHALMOLOGY	4.41%	5.10%	6.28%	8.26%	9.34%	9.95%	12.7%	14.4%	16.2%
ORTHOPEDIC SURGERY	2.68%	2.69%	2.81%	4.39%	4.65%	4.61%	7.1%	7.3%	7.4%
ANESTHESIOLOGY	2.07%	2.06%	2.36%	3.89%	3.65%	3.64%	6.0%	5.7%	6.0%
PATHOLOGY	1.02%	0.44%	0.41%	1.18%	0.45%	0.46%	2.2%	0.9%	0.9%
RADIOLOGY	5.07%	5.31%	5.48%	5.13%	4.97%	4.63%	10.2%	10.3%	10.1%
TOTAL	39.11%	38.68%	41.33%	60.89%	61.32%	58.67%	100.0%	100.0%	100.0%

TABLE 2E

PERCENT CHANGES IN THE DISTRIBUTION OF ALLOWED CHARGES BY SPECIALTY BY PARTICIPATION STATUS

ALL NINE CARRIERS COMBINED

	Participation Status			
	Participants		Non-Participants	
Jan-Mar Quarter	84/83	85/84	84/83	85/84
GENERAL PRACTICE	-0.5%	-0.7%	0.3%	-13.2%
FAMILY PRACTICE	-2.4%	9.6%	1.7%	-8.4%
INTERNAL MEDICINE	-5.5%	5.5%	0.5%	-8.3%
CARDIOLOGY	0.6%	-0.7%	3.1%	1.0%
GENERAL SURGERY	-3.5%	5.2%	-0.7%	-2.7%
OPHTHALMOLOGY	15.9%	23.1%	13.0%	6.6%
ORTHOPEDIC SURGERY	0.5%	4.5%	6.1%	-1.0%
ANESTHESIOLOGY	-0.8%	14.8%	-6.2%	-0.2%
PATHOLOGY	-56.9%	-5.2%	-61.9%	2.9%
RADIOLOGY	4.8%	3.1%	-3.0%	-6.9%

TABLE 2F

PARTICIPATION RATES AND PERCENT CHANGE IN PARTICIPATION RATES 1/

ALL NINE CARRIERS COMBINED

	Participation Rate			Percent Change	
Jan-Mar Quarter	83	84	85	84/83	85/84
ALL MD/DO SPECIALTIES COMBINED	40.1%	39.5%	42.0%	-1.3%	6.4%
GENERAL PRACTICE	27.0%	26.8%	29.6%	-0.6%	10.1%
FAMILY PRACTICE	38.9%	37.9%	42.2%	-2.5%	11.4%
INTERNAL MEDICINE	37.5%	36.0%	39.3%	-3.8%	9.1%
CARDIOLOGY	48.8%	48.1%	47.7%	-1.3%	-0.9%
GENERAL SURGERY	46.3%	45.6%	47.5%	-1.5%	4.2%
OPHTHALMOLOGY	34.8%	35.3%	38.7%	1.6%	9.4%
ORTHOPEDIC SURGERY	37.9%	36.6%	37.9%	-3.4%	3.5%
ANESTHESIOLOGY	34.8%	36.0%	39.4%	3.7%	9.2%
PATHOLOGY	46.2%	49.2%	47.2%	6.6%	-4.2%
RADIOLOGY	49.7%	51.7%	54.2%	3.9%	4.9%

1/ Allowed charges provided by participating physicians as a percent of total allowed charges.

TABLE 2G

ASSIGNMENT RATES AND PERCENT CHANGE IN ASSIGNMENT RATES
FOR NON-PARTCIPATING PHYSICIANS

ALL NINE CARRIERS COMBINED

	Assignment Rate			Percent Change	
Jan-Mar Quarter	83	84	85	84/83	85/84
ALL MD/DO SPECIALTIES COMBINED	44.3%	43.0%	42.2%	-3.0%	-1.9%
GENERAL PRACTICE	38.6%	37.4%	35.2%	-3.1%	-6.0%
FAMILY PRACTICE	34.1%	32.9%	27.4%	-3.6%	-16.6%
INTERNAL MEDICINE	41.1%	40.9%	39.0%	-0.6%	-4.6%
CARDIOLOGY	51.4%	49.7%	47.3%	-3.4%	-4.9%
GENERAL SURGERY	46.6%	46.7%	46.3%	0.3%	-0.9%
OPHTHALMOLOGY	38.7%	40.6%	41.4%	4.9%	2.0%
ORTHOPEDIC SURGERY	37.7%	38.3%	38.3%	1.4%	0.1%
ANESTHESIOLOGY	44.6%	41.5%	43.3%	-7.0%	4.4%
PATHOLOGY	84.8%	60.5%	54.1%	-28.6%	-10.7%
RADIOLOGY	57.6%	49.1%	46.1%	-14.7%	-6.2%

TABLE 3

INDIVIDUAL SAMPLE CARRIERS

TABLE 3A

PERCENT CHANGE IN PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

ORTHOPEDIC SURGERY

Jan-Mar Quarter	Participation Status: Participants 84/83	Participants 85/84	Non-Participants 84/83	Non-Participants 85/84	Non-Participants: Assigned 84/83	Assigned 85/84	Non-Participants: Unassigned 84/83	Unassigned 85/84
CLAIMS PER USER OF SERVICES								
Iowa BS	3.7%	-5.3%	1.6%	-3.6%	2.1%	2.0%	0.7%	-4.9%
Maryland BS	1.6%	6.6%	3.5%	2.0%	0.9%	-0.3%	4.4%	3.0%
Penn. BS - Penn.	-1.0%	1.1%	-2.5%	1.0%	-3.2%	-9.0%	-1.1%	-5.8%
Penn. BS - D.C.	-2.2%	1.5%	0.8%	-1.3%	0.4%	-22.8%	5.4%	-11.7%
Penn. BS - Del.	2.1%	3.2%	-0.7%	-13.3%	-2.5%	-22.3%	2.3%	-2.9%
Prudential - Ga	-0.4%	1.6%	1.9%	1.4%	4.0%	2.6%	1.0%	1.0%
Prudential - N.C.	2.6%	-1.9%	-0.6%	0.3%	-0.3%	3.3%	-0.7%	-0.3%
Prudential - N.J.	0.3%	-0.3%	-0.6%	-1.2%	0.0%	-0.6%	-0.7%	-1.6%
Texas BS	3.1%	2.1%	1.9%	1.0%	3.6%	-0.1%	1.4%	1.1%
SERVICES PER USER OF SERVICES								
Iowa BS	0.4%	-16.7%	-9.6%	-16.6%	-3.5%	-13.7%	-11.7%	-17.5%
Maryland BS	-1.7%	1.5%	-4.8%	-0.9%	-8.6%	-3.1%	-2.8%	0.0%
Penn. BS - Penn.	-5.5%	-2.2%	-6.8%	-1.5%	-8.2%	-11.6%	-4.6%	-7.7%
Penn. BS - D.C.	-3.1%	-2.1%	2.1%	-6.6%	5.1%	-29.3%	4.9%	-14.8%
Penn. BS - Del.	-3.2%	7.8%	-4.0%	-16.5%	-7.8%	-24.2%	5.6%	-10.3%
Prudential - Ga	3.4%	-8.8%	2.6%	-2.4%	6.5%	-4.9%	0.9%	-1.2%
Prudential - N.C.	2.2%	-7.9%	0.8%	-7.1%	2.1%	-9.7%	0.4%	-6.4%
Prudential - N.J.	0.3%	-6.7%	2.6%	-3.9%	7.6%	-5.7%	0.1%	-2.8%
Texas BS	-1.2%	-3.4%	-4.2%	-3.0%	-4.4%	-7.0%	-3.9%	-1.8%
SUBMITTED CHARGES PER USER OF SERVICES								
Iowa BS	21.2%	-21.4%	2.1%	-19.3%	0.0%	-10.6%	1.8%	-21.8%
Maryland BS	8.1%	2.2%	11.9%	4.5%	12.3%	1.0%	8.8%	6.8%
Penn. BS - Penn.	1.2%	7.5%	5.5%	7.1%	8.0%	-1.3%	3.4%	-1.1%
Penn. BS - D.C.	7.2%	-2.3%	-1.3%	1.2%	5.7%	-36.1%	-1.2%	2.7%
Penn. BS - Del.	20.3%	-1.4%	-19.7%	19.4%	-25.9%	21.4%	2.4%	-7.7%
Prudential - Ga	8.3%	-4.5%	12.4%	3.9%	10.9%	1.6%	13.4%	5.2%
Prudential - N.C.	8.9%	4.3%	5.9%	5.6%	5.6%	1.5%	6.2%	6.2%
Prudential - N.J.	9.6%	2.8%	14.3%	6.0%	20.2%	2.6%	10.0%	8.8%
Texas BS	6.0%	18.1%	10.8%	8.0%	9.6%	4.6%	11.6%	9.2%
ALLOWED CHARGES PER USER OF SERVICES								
Iowa BS	25.1%	-20.3%	1.2%	-15.4%	-1.1%	-6.1%	1.1%	-18.0%
Maryland BS	5.3%	-2.9%	9.8%	-0.7%	9.0%	-4.3%	8.0%	1.7%
Penn. BS - Penn.	0.1%	-0.5%	3.7%	3.1%	5.9%	-4.4%	2.2%	-5.8%
Penn. BS - D.C.	4.3%	-6.0%	-2.2%	-1.9%	4.7%	-37.2%	-2.0%	-1.2%
Penn. BS - Del.	18.9%	-3.1%	-18.6%	14.8%	-22.9%	16.6%	-2.7%	-12.3%
Prudential - Ga	4.6%	-13.5%	7.7%	-0.6%	8.3%	-3.9%	7.4%	1.4%
Prudential - N.C.	8.4%	-3.9%	5.2%	2.2%	3.5%	0.4%	6.2%	1.8%
Prudential - N.J.	9.8%	-3.4%	9.1%	-0.4%	13.8%	-3.2%	5.4%	2.1%
Texas BS	5.0%	14.0%	13.3%	6.0%	11.6%	3.1%	14.4%	6.8%

TABLE 3A

PERCENT CHANGE IN PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

ALL MD/DO SPECIALTIES COMBINED

Jan-Mar Quarter	Participation Status: Participants 84/83	Participants 85/84	Non-Participants 84/83	Non-Participants 85/84	Non-Participants: Assigned 84/83	Assigned 85/84	Non-Participants: Unassigned 84/83	Unassigned 85/84
CLAIMS PER USER OF SERVICES								
Iowa BS	7.5%	1.4%	9.7%	-1.9%	3.8%	-0.6%	9.4%	-2.0%
Maryland BS	5.3%	8.5%	3.0%	4.3%	4.5%	2.6%	1.0%	5.1%
Penn. BS - Penn.	-2.7%	-6.8%	-3.9%	-3.1%	-4.0%	-24.5%	-4.1%	-9.2%
Penn. BS - D.C.	-14.3%	0.3%	-4.6%	-4.6%	-3.3%	-30.5%	-3.6%	-10.1%
Penn. BS - Del.	0.3%	-1.6%	-6.0%	-3.1%	-4.3%	-22.3%	-4.9%	-6.7%
Prudential - Ga	0.7%	4.2%	0.7%	0.1%	0.4%	-0.4%	1.0%	0.6%
Prudential - N.C.	-0.2%	-0.7%	1.5%	-0.4%	1.3%	-0.7%	1.6%	-0.3%
Prudential - N.J.	1.7%	4.4%	1.1%	-1.4%	0.5%	-2.7%	1.5%	-0.8%
Texas BS	-10.0%	-7.3%	-5.2%	-0.3%	-8.2%	-4.0%	-2.8%	2.0%
SERVICES PER USER OF SERVICES								
Iowa BS	-8.0%	-18.8%	-2.8%	-29.5%	-3.6%	-40.8%	-4.4%	-25.3%
Maryland BS	-1.3%	15.2%	-6.6%	-4.7%	-8.2%	-6.9%	-2.6%	-3.8%
Penn. BS - Penn.	-8.6%	-11.6%	-9.3%	-6.3%	-11.2%	-36.4%	-8.4%	-6.4%
Penn. BS - D.C.	-21.1%	-4.7%	-8.3%	-5.2%	-8.3%	-31.6%	-6.1%	-9.9%
Penn. BS - Del.	-2.2%	-13.5%	-9.2%	-12.2%	-6.6%	-43.5%	-6.7%	-0.8%
Prudential - Ga	3.6%	-10.3%	8.3%	-5.6%	1.4%	-6.1%	13.0%	-5.9%
Prudential - N.C.	0.6%	-11.3%	7.5%	-9.6%	1.6%	-11.6%	9.9%	-8.9%
Prudential - N.J.	6.1%	-5.1%	10.1%	-5.0%	3.4%	-6.5%	13.8%	-4.1%
Texas BS	-31.4%	-19.5%	-22.4%	-8.7%	-32.5%	-13.5%	-11.0%	-5.2%
SUBMITTED CHARGES PER USER OF SERVICES								
Iowa BS	2.2%	-14.7%	5.5%	-20.2%	4.5%	-16.5%	3.9%	-21.2%
Maryland BS	3.4%	8.9%	10.7%	6.3%	12.7%	6.3%	7.3%	3.5%
Penn. BS - Penn.	-1.7%	-5.4%	-0.1%	0.8%	0.1%	-35.9%	0.1%	11.0%
Penn. BS - D.C.	-0.3%	-2.0%	-6.2%	0.0%	-3.6%	-34.0%	-5.3%	0.9%
Penn. BS - Del.	8.0%	-11.2%	8.6%	-8.5%	14.3%	-40.0%	11.1%	12.4%
Prudential - Ga	9.9%	-1.4%	13.3%	1.0%	13.9%	4.9%	12.7%	-1.9%
Prudential - N.C.	9.5%	-5.8%	10.8%	-4.7%	13.9%	-0.4%	9.9%	-6.7%
Prudential - N.J.	9.1%	1.0%	15.5%	-0.4%	10.9%	-0.9%	18.0%	0.1%
Texas BS	2.0%	-4.5%	0.8%	2.8%	5.6%	3.2%	-2.1%	2.6%
ALLOWED CHARGES PER USER OF SERVICES								
Iowa BS	4.3%	-15.3%	6.6%	-19.0%	8.2%	-16.2%	4.3%	-19.7%
Maryland BS	3.0%	4.3%	9.9%	2.0%	12.3%	1.7%	6.2%	-0.1%
Penn. BS - Penn.	-3.6%	-11.5%	-2.3%	-2.5%	-3.5%	-38.2%	-0.9%	6.0%
Penn. BS - D.C.	-2.3%	-4.1%	-6.6%	-2.8%	-4.0%	-35.5%	-5.8%	-2.6%
Penn. BS - Del.	3.9%	-11.9%	3.7%	-8.7%	6.8%	-39.8%	8.1%	7.6%
Prudential - Ga	4.9%	-7.4%	8.6%	-2.0%	9.7%	1.9%	7.7%	-4.9%
Prudential - N.C.	6.1%	-11.4%	7.0%	-7.7%	9.0%	-3.6%	4.9%	-9.6%
Prudential - N.J.	4.5%	-8.0%	9.9%	-5.8%	5.4%	-5.8%	12.5%	-5.8%
Texas BS	0.7%	-8.1%	-0.5%	0.7%	3.3%	1.8%	-2.8%	-0.1%

TABLE 3A

PERCENT CHANGE IN PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

GENERAL PRACTICE

	Participation Status							
	Participants		Non-Participants		Non-Participants			
					Assigned		Unassigned	
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
CLAIMS PER USER OF SERVICES								
Iowa BS	2.3%	12.0%	2.9%	5.8%	2.7%	7.1%	3.1%	4.7%
Maryland BS	3.8%	3.9%	1.2%	1.8%	5.3%	0.8%	-0.6%	2.2%
Penn. BS - Penn.	-3.4%	-17.9%	-3.4%	-5.2%	-2.7%	-31.7%	-3.5%	-12.0%
Penn. BS - D.C.	-8.1%	3.8%	-8.7%	-3.5%	1.5%	-15.4%	-12.4%	-10.1%
Penn. BS - Del.	15.0%	7.4%	-7.0%	0.7%	-5.5%	-22.6%	-5.4%	-9.0%
Prudential - Ga	-0.2%	3.9%	5.6%	-1.3%	4.3%	-3.5%	7.1%	0.9%
Prudential - N.C.	1.5%	4.4%	2.3%	2.3%	0.7%	1.0%	3.1%	2.8%
Prudential - N.J.	-1.3%	13.2%	-0.2%	-0.4%	-2.0%	-0.1%	0.6%	-0.2%
Texas BS	1.1%	0.1%	0.8%	-1.0%	1.4%	-1.6%	0.6%	-0.2%
SERVICES PER USER OF SERVICES								
Iowa BS	-3.0%	-27.2%	-8.3%	-31.4%	-8.1%	-18.6%	-8.5%	-33.8%
Maryland BS	-4.1%	-17.4%	-1.9%	-9.0%	-1.7%	-12.7%	-1.9%	-7.6%
Penn. BS - Penn.	-8.9%	-21.9%	-9.2%	-7.7%	-15.0%	-45.2%	-7.5%	-9.9%
Penn. BS - D.C.	-8.9%	4.7%	-13.2%	-6.8%	-3.0%	-22.8%	-16.8%	-10.7%
Penn. BS - Del.	11.6%	-10.0%	-8.0%	-5.6%	-0.5%	-47.8%	-7.3%	-4.3%
Prudential - Ga	3.8%	-8.8%	18.1%	-9.2%	7.3%	-11.5%	27.9%	-7.5%
Prudential - N.C.	7.1%	-17.3%	14.0%	-6.7%	-1.1%	-8.9%	22.1%	-6.2%
Prudential - N.J.	16.3%	-16.1%	19.6%	-7.5%	8.8%	-7.4%	26.0%	-6.7%
Texas BS	-4.3%	-11.0%	-5.3%	-8.9%	-5.7%	-10.9%	-5.0%	-7.6%
SUBMITTED CHARGES PER USER OF SERVICES								
Iowa BS	-0.3%	-17.8%	-3.6%	-28.7%	-1.6%	-18.2%	-4.1%	-31.1%
Maryland BS	1.2%	-12.7%	2.5%	-5.7%	3.4%	-14.7%	2.1%	-0.3%
Penn. BS - Penn.	-4.3%	-16.8%	-2.2%	-4.0%	-4.7%	-49.4%	-1.4%	0.1%
Penn. BS - D.C.	0.7%	5.1%	-6.4%	2.1%	-5.1%	-13.0%	-3.3%	-3.5%
Penn. BS - Del.	14.1%	-5.1%	-0.4%	-4.7%	16.5%	-52.8%	-3.5%	4.0%
Prudential - Ga	11.1%	-4.6%	19.2%	-5.9%	11.9%	-6.7%	26.6%	-5.2%
Prudential - N.C.	8.7%	-15.0%	11.5%	-6.5%	4.6%	-5.8%	17.0%	-6.1%
Prudential - N.J.	21.1%	-11.4%	24.5%	-4.7%	20.4%	-6.1%	28.0%	-2.5%
Texas BS	2.1%	-6.4%	2.5%	-6.7%	4.6%	-7.8%	1.1%	-5.4%
ALLOWED CHARGES PER USER OF SERVICES								
Iowa BS	1.3%	-21.8%	-4.3%	-28.6%	-0.9%	-21.8%	-5.1%	-30.0%
Maryland BS	0.2%	-19.4%	3.3%	-11.2%	4.8%	-22.9%	2.6%	-4.3%
Penn. BS - Penn.	-3.5%	-21.3%	-2.6%	-7.5%	-6.6%	-50.0%	-1.3%	-5.3%
Penn. BS - D.C.	-4.0%	4.0%	-16.9%	1.9%	-24.3%	-6.4%	-9.9%	-7.2%
Penn. BS - Del.	19.7%	-11.9%	-1.0%	-8.0%	11.9%	-51.8%	-2.2%	-2.8%
Prudential - Ga	8.7%	-12.0%	14.4%	-9.7%	9.0%	-11.8%	20.0%	-7.6%
Prudential - N.C.	7.5%	-18.8%	9.7%	-9.0%	2.3%	-8.4%	15.6%	-8.5%
Prudential - N.J.	18.6%	-21.4%	20.9%	-9.3%	14.3%	-9.1%	25.8%	-8.0%
Texas BS	3.5%	-11.3%	2.3%	-10.3%	3.4%	-11.3%	1.6%	-9.2%

TABLE 3A

PERCENT CHANGE IN PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

FAMILY PRACTICE

	Participation Status							
	Participants		Non-Participants		Non-Participants			
					Assigned		Unassigned	
Jan-Mar Quarters	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
CLAIMS PER USER OF SERVICES								
Iowa BS	5.4%	10.8%	2.6%	1.6%	-1.9%	7.3%	3.9%	0.0%
Maryland BS	3.5%	11.1%	-1.3%	6.9%	-1.0%	7.4%	0.1%	5.1%
Penn. BS - Penn.	-3.3%	-13.3%	-3.2%	-3.4%	-4.5%	-33.9%	-3.6%	-8.1%
Penn. BS - D.C.	0.8%	-4.9%	0.1%	-5.0%	5.7%	-30.6%	-1.3%	-12.1%
Penn. BS - Del.	-10.7%	-6.4%	-8.6%	-4.0%	-16.2%	-11.6%	-6.3%	-15.9%
Prudential - Ga								
Prudential - N.C.								
Prudential - N.J.	-1.9%	8.5%	0.1%	-1.6%	0.8%	-6.2%	0.1%	0.0%
Texas BS								
SERVICES PER USER OF SERVICES								
Iowa BS	5.3%	-12.5%	-7.1%	-24.4%	-10.8%	-19.5%	-6.2%	-25.4%
Maryland BS	-5.1%	-11.9%	-1.2%	-3.2%	1.0%	-0.7%	-0.6%	-6.3%
Penn. BS - Penn.	-8.6%	-18.6%	-7.3%	-7.7%	-11.6%	-47.8%	-6.4%	-6.5%
Penn. BS - D.C.	-2.6%	-8.9%	-3.2%	-6.8%	2.7%	-38.7%	-4.7%	-10.6%
Penn. BS - Del.	-21.1%	-11.4%	-13.0%	-20.9%	-27.7%	-42.7%	-2.1%	-13.5%
Prudential - Ga								
Prudential - N.C.								
Prudential - N.J.	6.8%	-16.6%	13.1%	-7.3%	5.7%	-9.8%	17.5%	-5.2%
Texas BS								
SUBMITTED CHARGES PER USER OF SERVICES								
Iowa BS	7.1%	-17.0%	-2.5%	-23.5%	-4.1%	-23.1%	-1.9%	-23.9%
Maryland BS	1.0%	-15.1%	4.4%	6.9%	14.3%	9.3%	1.4%	1.1%
Penn. BS - Penn.	-5.2%	-13.5%	-1.3%	-6.7%	-3.9%	-53.7%	-0.7%	2.9%
Penn. BS - D.C.	0.8%	-3.0%	2.3%	-8.1%	10.1%	-45.0%	0.5%	-6.8%
Penn. BS - Del.	-27.9%	-6.7%	-3.7%	-20.4%	-22.5%	-46.3%	16.2%	-3.3%
Prudential - Ga								
Prudential - N.C.								
Prudential - N.J.	9.1%	-12.0%	17.8%	-7.1%	12.3%	-9.7%	22.5%	-3.9%
Texas BS								
ALLOWED CHARGES PER USER OF SERVICES								
Iowa BS	10.9%	-20.2%	-1.0%	-24.9%	-1.3%	-24.5%	-0.8%	-25.1%
Maryland BS	0.0%	-18.0%	6.1%	-0.6%	16.1%	-1.7%	3.1%	-3.1%
Penn. BS - Penn.	-4.0%	-19.0%	-1.3%	-9.6%	-4.0%	-54.4%	-0.6%	-1.5%
Penn. BS - D.C.	0.2%	-11.6%	1.3%	-11.0%	11.3%	-46.6%	-1.6%	-10.2%
Penn. BS - Del.	-29.0%	-4.2%	1.6%	-23.2%	-15.3%	-48.2%	15.8%	-6.5%
Prudential - Ga								
Prudential - N.C.								
Prudential - N.J.	5.8%	-21.6%	12.5%	-11.3%	4.6%	-12.4%	18.3%	-9.3%
Texas BS								

TABLE 8A

PERCENT CHANGE IN PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

CARDIOLOGY

	Participation Status							
	Participants		Non-Participants		Non-Participants			
					Assigned		Unassigned	
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
CLAIMS PER USER OF SERVICES								
Iowa BS	1.0%	-1.3%	-6.4%	-4.3%	-19.1%	0.2%	-0.3%	-6.7%
Maryland BS	-0.3%	4.1%	2.6%	1.1%	-0.9%	2.5%	1.1%	1.6%
Penn. BS - Penn.	-5.1%	-4.7%	-10.3%	-1.2%	-5.6%	-25.0%	-12.5%	-6.8%
Penn. BS - D.C.	-3.8%	2.5%	-1.9%	-8.3%	-1.9%	-19.7%	-3.2%	-22.2%
Penn. BS - Del.	3.4%	0.8%	-12.5%	-12.9%	-4.6%	-28.8%	4.6%	-7.0%
Prudential - Ga								
Prudential - N.C.	6.0%	0.7%	-8.1%	9.7%	-13.0%	9.4%	-5.6%	7.2%
Prudential - N.J.	3.7%	1.6%	0.7%	1.5%	1.5%	4.0%	0.4%	0.2%
Texas BS	-0.3%	0.8%	-0.6%	2.5%	-1.7%	3.1%	0.8%	1.8%
SERVICES PER USER OF SERVICES								
Iowa BS	-11.4%	-20.4%	-12.5%	-21.2%	-14.4%	-17.7%	-10.8%	-21.6%
Maryland BS	-3.7%	3.4%	-6.5%	-0.6%	-11.4%	3.4%	-6.9%	-1.7%
Penn. BS - Penn.	-12.0%	-11.0%	-18.3%	-7.7%	-14.6%	-39.1%	-18.4%	-4.4%
Penn. BS - D.C.	-6.1%	-7.4%	-7.8%	-9.5%	-9.7%	-23.7%	-6.7%	-21.7%
Penn. BS - Del.	-1.2%	-14.5%	-13.5%	-25.9%	-14.4%	-36.4%	27.3%	-25.5%
Prudential - Ga								
Prudential - N.C.	-2.4%	-3.9%	-15.8%	1.1%	-20.4%	12.5%	-13.2%	-2.3%
Prudential - N.J.	8.8%	-5.2%	4.5%	-5.9%	-0.7%	-2.9%	7.9%	-7.4%
Texas BS	-1.6%	-9.5%	-12.2%	1.0%	-15.8%	6.6%	-8.4%	-2.9%
SUBMITTED CHARGES PER USER OF SERVICES								
Iowa BS	-1.7%	-30.1%	-18.4%	-10.2%	-32.7%	16.7%	-10.4%	-29.3%
Maryland BS	-4.1%	9.2%	4.9%	3.4%	1.7%	8.5%	-1.8%	2.3%
Penn. BS - Penn.	-7.0%	-0.5%	-17.5%	-2.3%	-12.3%	-32.8%	-17.0%	3.7%
Penn. BS - D.C.	1.0%	0.1%	-7.6%	2.9%	-5.2%	-16.2%	-9.6%	-9.0%
Penn. BS - Del.	-14.9%	-29.9%	-7.2%	-45.0%	-12.8%	-49.4%	81.0%	-52.5%
Prudential - Ga								
Prudential - N.C.	2.1%	24.3%	-8.7%	12.6%	-15.1%	33.4%	-5.1%	5.6%
Prudential - N.J.	25.8%	-3.4%	15.7%	-1.1%	9.6%	2.3%	20.2%	-2.9%
Texas BS	0.8%	10.0%	-5.9%	17.2%	-12.5%	17.1%	1.4%	7.3%
ALLOWED CHARGES PER USER OF SERVICES								
Iowa BS	6.4%	-27.4%	-10.1%	-8.5%	-20.8%	23.6%	-4.1%	-28.3%
Maryland BS	-3.5%	6.2%	8.6%	0.1%	5.8%	5.0%	1.2%	-1.0%
Penn. BS - Penn.	-11.6%	-6.9%	-19.1%	-4.8%	-16.9%	-35.0%	-16.6%	-0.7%
Penn. BS - D.C.	-2.8%	-4.3%	-7.6%	0.3%	-8.3%	-17.6%	-7.1%	-11.9%
Penn. BS - Del.	-12.7%	-25.9%	-6.9%	-44.5%	-7.8%	-51.1%	56.1%	-48.6%
Prudential - Ga								
Prudential - N.C.	-1.2%	12.1%	-11.0%	7.3%	-13.3%	26.7%	-9.8%	1.4%
Prudential - N.J.	7.1%	-10.0%	9.0%	-5.7%	3.2%	-2.1%	13.5%	-7.8%
Texas BS	1.4%	6.7%	-3.8%	7.7%	-10.5%	14.4%	3.6%	3.3%

PERCENT CHANGE IN PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

INTERNAL MEDICINE

	Participation Status				Non-Participants			
	Participants		Non-Participants		Assigned		Unassigned	
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
CLAIMS PER USER OF SERVICES								
Iowa BS	-1.1%	1.3%	3.5%	2.1%	6.0%	2.3%	3.7%	1.3%
Maryland BS	3.9%	9.1%	3.2%	3.3%	5.2%	0.9%	1.1%	4.3%
Penn. BS - Penn.	-6.0%	-6.1%	-5.1%	-2.7%	-4.5%	-29.7%	-5.7%	-11.1%
Penn. BS - D.C.	-5.1%	-0.9%	-3.7%	-5.7%	-5.3%	-41.2%	-1.6%	-13.3%
Penn. BS - Del.	-2.5%	-6.7%	-5.9%	0.1%	3.3%	-33.8%	-6.6%	-3.2%
Prudential - Ga	1.8%	13.0%	5.3%	0.9%	5.5%	-0.5%	4.5%	1.4%
Prudential - N.C.	0.8%	6.3%	2.1%	-0.4%	0.9%	-1.2%	2.3%	0.0%
Prudential - N.J.	0.7%	6.1%	-0.3%	-0.6%	-1.7%	-1.0%	0.1%	-0.3%
Texas BS	0.5%	0.8%	1.5%	0.1%	2.1%	-1.6%	1.5%	0.9%
SERVICES PER USER OF SERVICES								
Iowa BS	-16.2%	-18.6%	-9.6%	-17.7%	5.1%	-21.2%	-11.7%	-18.0%
Maryland BS	-1.6%	-4.2%	-3.5%	-5.4%	-5.2%	-7.8%	-4.1%	-3.6%
Penn. BS - Penn.	-13.1%	-14.3%	-11.2%	-7.9%	-12.2%	-46.6%	-10.6%	-5.1%
Penn. BS - D.C.	-10.7%	-7.8%	-6.7%	-6.1%	-6.9%	-40.6%	-4.6%	-13.7%
Penn. BS - Del.	-3.0%	-15.2%	-7.2%	-9.6%	13.7%	-59.5%	-11.1%	8.2%
Prudential - Ga	0.9%	-4.1%	10.7%	-5.0%	12.3%	-5.4%	9.1%	-5.1%
Prudential - N.C.	-2.1%	-6.8%	3.5%	-10.7%	-0.4%	-13.6%	4.9%	-9.7%
Prudential - N.J.	2.2%	-12.0%	5.0%	-8.7%	0.6%	-6.9%	7.2%	-8.4%
Texas BS	-4.8%	-11.7%	-6.8%	-8.7%	-9.1%	-10.6%	-5.3%	-7.8%
SUBMITTED CHARGES PER USER OF SERVICES								
Iowa BS	-15.6%	-0.2%	-6.4%	-17.0%	9.6%	-22.0%	-8.6%	-17.1%
Maryland BS	6.5%	-1.8%	4.7%	-0.7%	5.0%	-3.7%	-0.2%	4.0%
Penn. BS - Penn.	-6.9%	-7.9%	-3.3%	-5.6%	-0.3%	-50.1%	-6.1%	10.2%
Penn. BS - D.C.	-9.2%	-7.3%	-5.0%	-6.5%	-6.0%	-42.8%	-1.8%	-12.5%
Penn. BS - Del.	-2.3%	-3.7%	-2.1%	-8.6%	21.8%	-62.0%	-7.0%	22.8%
Prudential - Ga	5.7%	6.9%	15.7%	-3.3%	23.3%	-4.5%	11.0%	-2.4%
Prudential - N.C.	3.5%	-7.6%	6.1%	-10.7%	2.8%	-12.9%	7.9%	-9.9%
Prudential - N.J.	6.9%	-3.6%	10.5%	-4.8%	6.2%	-1.4%	12.9%	-5.0%
Texas BS	3.2%	-6.1%	-0.7%	-6.7%	-1.4%	-7.6%	0.0%	-6.1%
ALLOWED CHARGES PER USER OF SERVICES								
Iowa BS	-9.9%	-8.2%	-4.8%	-16.3%	10.8%	-21.3%	-6.9%	-16.4%
Maryland BS	6.5%	-6.6%	4.7%	-4.8%	5.8%	-7.7%	-1.0%	-0.6%
Penn. BS - Penn.	-7.7%	-14.6%	-5.1%	-9.1%	-3.5%	-51.5%	-6.5%	3.9%
Penn. BS - D.C.	-7.8%	-10.2%	-5.0%	-10.3%	-5.5%	-44.7%	-2.0%	-16.4%
Penn. BS - Del.	1.7%	-12.2%	-3.9%	-11.6%	19.9%	-62.8%	-9.2%	16.2%
Prudential - Ga	2.2%	1.1%	10.3%	-5.1%	18.6%	-5.9%	5.1%	-4.3%
Prudential - N.C.	1.7%	-11.9%	3.1%	-13.1%	-0.9%	-15.0%	5.3%	-12.6%
Prudential - N.J.	3.5%	-11.5%	6.4%	-10.1%	2.2%	-6.1%	8.8%	-11.1%
Texas BS	2.1%	-11.4%	0.6%	-9.9%	-0.4%	-9.5%	1.4%	-10.1%

TABLE 3A

PERCENT CHANGE IN PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

GENERAL SURGERY

	Participation Status							
	Participants		Non-Participants		Non-Participants			
					Assigned		Unassigned	
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
CLAIMS PER USER OF SERVICES								
Iowa BS	2.9%	3.3%	0.3%	1.0%	3.0%	-0.4%	-1.2%	1.8%
Maryland BS	3.1%	7.3%	1.5%	2.5%	2.2%	2.5%	-0.2%	3.0%
Penn. BS - Penn.	-2.2%	-0.6%	-3.3%	6.7%	-8.1%	7.2%	1.8%	-10.0%
Penn. BS - D.C.	-2.2%	-2.4%	-2.0%	-4.8%	-0.2%	-21.0%	-1.3%	-8.8%
Penn. BS - Del.	-5.5%	3.4%	-4.4%	-1.3%	-5.2%	-5.5%	0.6%	-7.1%
Prudential - Ga	-3.3%	0.0%	4.0%	-1.9%	2.8%	-2.7%	5.0%	-1.3%
Prudential - N.C.	0.4%	1.4%	-0.2%	-2.5%	-3.7%	0.2%	2.1%	-4.2%
Prudential - N.J.	1.3%	5.1%	0.4%	0.4%	0.8%	0.8%	0.1%	0.1%
Texas BS	-0.5%	2.9%	1.1%	-1.4%	1.0%	-3.4%	1.3%	-0.2%
SERVICES PER USER OF SERVICES								
Iowa BS	-3.5%	-18.9%	-7.6%	-18.1%	-8.6%	-18.7%	-8.1%	-17.5%
Maryland BS	-6.8%	-0.7%	-5.8%	-4.5%	-6.9%	-3.4%	-5.8%	-5.1%
Penn. BS - Penn.	-8.1%	-8.8%	-9.2%	3.4%	-14.2%	0.5%	-3.3%	-10.2%
Penn. BS - D.C.	-0.6%	-13.3%	-10.6%	-10.0%	-13.5%	-28.0%	-6.6%	-9.9%
Penn. BS - Del.	-5.6%	-9.2%	-19.4%	-9.2%	-29.0%	-19.0%	0.5%	-2.5%
Prudential - Ga	0.2%	-9.4%	13.9%	-10.4%	4.8%	-13.2%	21.5%	-8.4%
Prudential - N.C.	3.5%	-5.8%	-1.0%	-7.5%	-8.2%	-7.2%	5.3%	-7.6%
Prudential - N.J.	2.6%	-4.3%	7.2%	-2.1%	4.0%	-3.0%	10.2%	-1.7%
Texas BS	-9.4%	-1.1%	-4.1%	-12.4%	-2.6%	-12.5%	-5.0%	-12.3%
SUBMITTED CHARGES PER USER OF SERVICES								
Iowa BS	11.4%	-22.5%	2.5%	-18.6%	2.4%	-12.8%	1.7%	-21.3%
Maryland BS	1.1%	7.8%	5.7%	3.2%	5.7%	10.6%	4.0%	-5.7%
Penn. BS - Penn.	1.2%	-1.6%	-6.3%	14.1%	-8.6%	4.0%	-2.6%	6.7%
Penn. BS - D.C.	2.2%	-0.2%	10.0%	-6.8%	12.8%	-35.9%	8.8%	4.2%
Penn. BS - Del.	4.9%	-3.5%	28.1%	6.0%	19.7%	6.0%	51.5%	6.5%
Prudential - Ga	9.2%	3.1%	9.3%	-0.9%	8.2%	-3.5%	10.1%	1.3%
Prudential - N.C.	11.5%	-3.6%	12.7%	1.1%	10.3%	2.0%	15.5%	1.0%
Prudential - N.J.	10.3%	0.7%	10.0%	3.8%	13.8%	1.7%	6.5%	5.3%
Texas BS	-3.2%	10.4%	1.0%	9.5%	3.0%	9.6%	-0.9%	10.4%
ALLOWED CHARGES PER USER OF SERVICES								
Iowa BS	10.7%	-21.9%	4.5%	-16.7%	4.1%	-8.3%	3.8%	-19.7%
Maryland BS	1.0%	1.7%	4.8%	-1.0%	5.0%	4.8%	2.9%	-7.6%
Penn. BS - Penn.	0.0%	-6.0%	-6.9%	11.2%	-10.4%	3.2%	-1.9%	1.5%
Penn. BS - D.C.	3.8%	1.1%	11.3%	-7.1%	12.4%	-36.7%	12.0%	2.6%
Penn. BS - Del.	2.8%	-4.4%	16.8%	8.1%	10.9%	6.6%	36.3%	9.5%
Prudential - Ga	7.4%	-4.8%	7.5%	-4.5%	6.5%	-6.4%	8.3%	-3.0%
Prudential - N.C.	11.3%	-8.0%	10.9%	-2.5%	8.7%	-0.6%	13.4%	-3.4%
Prudential - N.J.	8.3%	-8.8%	6.3%	-1.6%	8.9%	-2.6%	4.1%	-1.1%
Texas BS	-2.4%	5.9%	2.2%	6.5%	4.0%	7.3%	0.6%	6.6%

TABLE 3A

PERCENT CHANGE IN PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

OPHTHALMOLOGY

	Participation Status							
	Participants		Non-Participants		Non-Participants			
					Assigned		Unassigned	
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
CLAIMS PER USER OF SERVICES								
Iowa BS	0.4%	-3.6%	-1.7%	-1.3%	6.7%	-4.2%	-2.6%	-1.5%
Maryland BS	-0.7%	11.6%	0.9%	1.2%	0.5%	4.6%	0.5%	0.3%
Penn. BS - Penn.	0.4%	-5.4%	-1.5%	1.8%	-4.2%	-10.8%	-2.0%	0.0%
Penn. BS - D.C.	-4.2%	5.0%	-3.0%	3.6%	4.6%	-29.1%	-4.6%	6.8%
Penn. BS - Del.	29.9%	-17.8%	-2.1%	2.1%	-6.8%	-6.6%	-2.0%	2.2%
Prudential - Ga	5.2%	0.7%	2.7%	-0.8%	2.7%	2.4%	2.8%	-2.6%
Prudential - N.C.	2.0%	-3.0%	1.1%	-0.5%	3.5%	1.5%	0.5%	-1.2%
Prudential - N.J.	0.9%	3.9%	0.6%	-0.3%	0.7%	-2.4%	0.6%	0.3%
Texas BS	1.8%	4.6%	1.0%	2.2%	2.3%	1.4%	0.2%	1.1%
SERVICES PER USER OF SERVICES								
Iowa BS	-4.7%	13.1%	1.6%	-1.5%	8.1%	-9.7%	0.9%	-1.2%
Maryland BS	-6.5%	9.1%	-1.6%	-2.1%	-2.8%	3.9%	-1.7%	-3.9%
Penn. BS - Penn.	-0.1%	-6.0%	-2.6%	1.9%	-6.5%	-12.5%	-2.9%	0.6%
Penn. BS - D.C.	-4.9%	4.7%	-3.2%	3.1%	5.0%	-30.1%	-5.0%	6.5%
Penn. BS - Del.	29.9%	-17.8%	-2.2%	2.1%	-8.7%	-6.4%	-1.8%	2.1%
Prudential - Ga	10.0%	-4.8%	9.3%	-2.3%	4.3%	1.6%	11.0%	-3.3%
Prudential - N.C.	5.3%	-5.8%	9.3%	-2.3%	6.7%	-1.7%	9.9%	-2.3%
Prudential - N.J.	9.4%	6.7%	7.9%	0.5%	10.3%	0.4%	7.1%	0.5%
Texas BS	2.3%	4.8%	-0.9%	6.0%	1.7%	6.3%	-2.4%	3.6%
SUBMITTED CHARGES PER USER OF SERVICES								
Iowa BS	-15.1%	27.7%	14.9%	-6.8%	32.3%	9.1%	13.2%	-9.3%
Maryland BS	31.5%	8.7%	23.8%	5.8%	11.8%	21.9%	27.8%	-12.0%
Penn. BS - Penn.	13.1%	-9.9%	9.2%	9.6%	-2.4%	-51.4%	12.7%	46.1%
Penn. BS - D.C.	31.3%	11.3%	11.9%	8.6%	30.0%	-42.6%	6.0%	24.2%
Penn. BS - Del.	-62.3%	-41.3%	24.5%	16.1%	-3.7%	-46.8%	38.1%	44.8%
Prudential - Ga	24.7%	-16.8%	11.0%	6.8%	11.1%	24.5%	12.1%	-7.8%
Prudential - N.C.	7.3%	-0.4%	13.5%	4.0%	24.8%	18.4%	8.8%	-6.3%
Prudential - N.J.	23.9%	1.7%	18.1%	1.9%	14.5%	1.3%	19.3%	0.4%
Texas BS	17.4%	8.1%	8.9%	15.7%	19.3%	19.7%	-0.9%	2.9%
ALLOWED CHARGES PER USER OF SERVICES								
Iowa BS	-12.7%	20.1%	13.4%	-5.5%	29.1%	4.2%	11.9%	-7.1%
Maryland BS	29.8%	4.1%	23.8%	2.0%	14.9%	15.1%	24.1%	-12.2%
Penn. BS - Penn.	10.3%	-15.6%	8.5%	6.0%	-4.1%	-52.6%	12.5%	37.9%
Penn. BS - D.C.	30.8%	5.8%	11.7%	5.0%	30.4%	-44.0%	5.8%	19.2%
Penn. BS - Del.	-59.5%	-34.5%	24.0%	10.1%	-0.1%	-49.0%	34.1%	36.8%
Prudential - Ga	22.3%	-22.5%	10.4%	3.7%	10.8%	22.6%	11.3%	-11.6%
Prudential - N.C.	2.8%	-10.8%	13.4%	1.0%	27.4%	14.0%	7.9%	-8.9%
Prudential - N.J.	18.7%	-6.1%	10.9%	0.6%	7.3%	-0.5%	12.2%	-0.5%
Texas BS	17.1%	3.1%	11.1%	11.6%	21.8%	14.5%	1.2%	0.4%

TABLE 3A

PERCENT CHANGE IN PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

ANESTHESIOLOGY

Jan-Mar Quarter	Participation Status: Participants 84/83	Participants 85/84	Non-Participants 84/83	Non-Participants 85/84	Non-Participants: Assigned 84/83	Assigned 85/84	Non-Participants: Unassigned 84/83	Unassigned 85/84
CLAIMS PER USER OF SERVICES								
Iowa BS	-2.1%	-1.5%	0.6%	-0.9%	0.3%	0.5%	0.4%	-1.0%
Maryland BS	-1.3%	5.1%	0.5%	2.2%	1.1%	2.9%	0.0%	1.4%
Penn. BS - Penn.	2.3%	-4.3%	1.7%	-0.2%	3.3%	-2.7%	0.3%	-1.0%
Penn. BS - D.C.	-1.5%	-0.4%	-0.7%	0.7%	-0.1%	4.0%	-1.6%	-3.2%
Penn. BS - Del.	2.8%	-2.5%	-4.3%	-1.7%	-4.3%	-1.7%		
Prudential - Ga	-1.2%	8.6%	1.0%	-0.7%	-1.3%	-1.6%	3.1%	0.1%
Prudential - N.C.	-1.0%	-6.1%	-3.7%	-0.7%	-3.9%	-0.2%	-3.5%	-1.6%
Prudential - N.J.	-0.2%	2.4%	-0.3%	1.8%	-1.1%	3.0%	0.3%	1.1%
Texas BS	-4.5%	1.7%	-1.0%	0.9%	-0.9%	0.0%	-0.9%	1.4%
SERVICES PER USER OF SERVICES								
Iowa BS	-16.8%	0.6%	-3.0%	-3.9%	-9.4%	13.0%	-1.5%	-7.6%
Maryland BS	-14.9%	13.0%	-6.4%	7.4%	-6.8%	11.0%	-7.2%	2.5%
Penn. BS - Penn.	-6.2%	8.5%	-13.2%	3.0%	-14.2%	6.6%	-12.0%	-3.5%
Penn. BS - D.C.	-9.5%	13.4%	1.4%	1.3%	4.1%	4.6%	-0.5%	-2.6%
Penn. BS - Del.	-24.4%	2.6%	-32.7%	57.5%	-32.7%	57.5%		
Prudential - Ga	3.1%	13.4%	9.0%	-5.8%	-0.3%	-2.1%	16.7%	-8.0%
Prudential - N.C.	4.3%	-12.1%	-5.4%	-1.1%	-6.8%	-0.7%	-4.0%	-2.5%
Prudential - N.J.	2.8%	0.3%	-0.8%	2.0%	-3.5%	3.1%	1.0%	1.3%
Texas BS	-31.6%	-4.8%	-6.2%	6.8%	-9.0%	12.6%	-2.5%	1.8%
SUBMITTED CHARGES PER USER OF SERVICES								
Iowa BS	-15.9%	8.7%	1.8%	-3.0%	-2.3%	3.0%	2.7%	-4.4%
Maryland BS	-0.3%	20.9%	15.7%	4.0%	12.0%	6.2%	22.5%	1.1%
Penn. BS - Penn.	14.0%	6.9%	12.4%	0.5%	11.9%	5.0%	12.4%	-6.8%
Penn. BS - D.C.	14.0%	7.2%	14.9%	4.3%	17.3%	4.3%	12.7%	2.7%
Penn. BS - Del.	11.3%	-5.9%	33.2%	-0.7%	32.9%	-0.7%		
Prudential - Ga	9.2%	17.0%	9.9%	2.4%	10.5%	-3.0%	9.5%	7.3%
Prudential - N.C.	16.6%	3.2%	7.2%	9.6%	1.7%	12.4%	11.7%	7.0%
Prudential - N.J.	12.5%	10.2%	13.6%	8.7%	10.7%	11.8%	15.5%	6.7%
Texas BS	4.9%	2.9%	4.8%	5.7%	2.8%	5.7%	6.5%	5.6%
ALLOWED CHARGES PER USER OF SERVICES								
Iowa BS	-12.5%	10.1%	3.1%	-1.6%	-2.2%	8.6%	4.3%	-3.8%
Maryland BS	-5.1%	12.3%	4.7%	2.1%	4.3%	4.8%	5.7%	-1.7%
Penn. BS - Penn.	4.9%	2.3%	1.6%	1.1%	-0.1%	2.1%	3.1%	-2.9%
Penn. BS - D.C.	3.6%	5.3%	9.0%	-0.1%	8.7%	-0.3%	8.6%	-1.4%
Penn. BS - Del.	-6.8%	-4.1%	-12.3%	14.1%	-12.3%	14.1%		
Prudential - Ga	8.1%	7.9%	5.3%	-0.2%	6.9%	-5.7%	4.4%	4.9%
Prudential - N.C.	-1.2%	-4.0%	-2.6%	1.0%	-4.8%	2.0%	0.7%	0.2%
Prudential - N.J.	7.4%	0.0%	4.2%	0.1%	1.7%	2.9%	5.7%	-2.0%
Texas BS	-7.1%	-0.2%	-16.1%	5.7%	-19.4%	8.3%	-13.6%	3.9%

TABLE 3A

PERCENT CHANGE IN PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

PATHOLOGY

Jan-Mar Quarter	Participation Status: Participants 84/83	Participants 85/84	Non-Participants 84/83	Non-Participants 85/84	Non-Participants: Assigned 84/83	Assigned 85/84	Non-Participants: Unassigned 84/83	Unassigned 85/84
CLAIMS PER USER OF SERVICES								
Iowa BS	-23.0%	-9.3%	3.5%	-11.2%	-18.2%	-5.4%	7.5%	-9.3%
Maryland BS	-4.1%	9.6%	-1.4%	1.4%	-0.2%	-1.0%	-1.5%	1.3%
Penn. BS - Penn.	1.5%	-2.3%	-25.9%	-32.1%	-54.3%	-4.8%	1.9%	-31.2%
Penn. BS - D.C.	-75.7%	-33.2%	15.4%	-9.7%	16.0%	-13.5%	-18.5%	-6.0%
Penn. BS - Del.			0.0%	0.0%			0.0%	0.0%
Prudential - Ga	-0.1%	5.4%	-20.0%	-7.1%	-21.0%	-11.9%	-11.7%	-0.1%
Prudential - N.C.	-32.9%	-9.1%	-7.9%	-5.6%	-8.8%	-10.7%	0.3%	0.0%
Prudential - N.J.	3.0%	2.3%	-0.2%	-3.7%	-4.8%	-6.7%	0.5%	-2.4%
Texas BS	-37.5%	-9.4%	-42.0%	-8.6%	-38.9%	-14.1%	-35.7%	-1.7%
SERVICES PER USER OF SERVICES								
Iowa BS	-82.7%	-23.7%	-38.9%	-28.0%	-45.4%	-9.6%	-39.3%	-31.2%
Maryland BS	14.5%	5.5%	-1.6%	1.2%	-0.4%	10.4%	-0.8%	-1.5%
Penn. BS - Penn.	-19.9%	-0.4%	-24.2%	-33.1%	-51.2%	-8.8%	2.2%	-32.0%
Penn. BS - D.C.	-75.9%	-55.1%	-3.3%	1.9%	-3.9%	-1.7%	-21.8%	-6.7%
Penn. BS - Del.			0.0%	0.0%			0.0%	0.0%
Prudential - Ga	4.4%	-6.8%	-63.6%	-49.6%	-62.1%	-58.2%	-4.1%	-17.9%
Prudential - N.C.	-70.5%	-16.6%	-52.2%	-39.7%	-52.4%	-55.1%	9.6%	-5.7%
Prudential - N.J.	-2.4%	-3.9%	-2.1%	-4.3%	-3.8%	-17.1%	-0.7%	-4.0%
Texas BS	-67.6%	-39.7%	-76.6%	-45.0%	-68.5%	-57.5%	-79.8%	-11.2%
SUBMITTED CHARGES PER USER OF SERVICES								
Iowa BS	-61.7%	-0.5%	62.4%	-7.4%	240.0%	0.5%	35.2%	-9.2%
Maryland BS	51.5%	36.7%	5.4%	31.4%	-15.5%	128.6%	13.0%	20.6%
Penn. BS - Penn.	6.5%	8.7%	64.6%	42.3%	119.0%	-3.1%	-1.7%	-5.9%
Penn. BS - D.C.	-55.0%	0.8%	-7.7%	5.0%	-8.5%	1.6%	-22.4%	-11.0%
Penn. BS - Del.			0.0%	0.0%			0.0%	0.0%
Prudential - Ga	84.0%	-16.0%	1.8%	5.8%	-8.0%	-8.0%	44.9%	20.7%
Prudential - N.C.	15.6%	-3.8%	-1.6%	-9.3%	-10.0%	-16.6%	30.5%	-1.8%
Prudential - N.J.	7.0%	4.8%	3.8%	8.6%	30.6%	28.3%	-0.1%	-1.5%
Texas BS	-11.6%	7.1%	-7.1%	1.1%	-2.7%	-14.2%	5.5%	20.5%
ALLOWED CHARGES PER USER OF SERVICES								
Iowa BS	-68.8%	15.2%	110.2%	15.8%	143.7%	49.5%	96.8%	8.0%
Maryland BS	31.2%	39.6%	-17.4%	77.4%	-41.5%	313.0%	-7.4%	52.2%
Penn. BS - Penn.	14.9%	12.0%	2.9%	53.4%	23.0%	15.0%	-22.3%	0.2%
Penn. BS - D.C.	-60.3%	-0.4%	2.3%	4.9%	2.6%	1.3%	-26.0%	-6.8%
Penn. BS - Del.			-11.1%	-25.0%			-11.1%	-25.0%
Prudential - Ga	72.8%	-7.2%	-13.1%	-7.4%	-18.7%	-10.5%	15.1%	-3.3%
Prudential - N.C.	-16.9%	-8.3%	-23.1%	-2.5%	-34.9%	-9.1%	11.1%	2.5%
Prudential - N.J.	12.1%	-16.3%	7.9%	-19.1%	52.1%	-25.8%	1.7%	-21.0%
Texas BS	-16.5%	-0.2%	-33.4%	17.0%	-27.9%	-1.3%	-23.4%	42.4%

TABLE 3A

PERCENT CHANGE IN PER USER CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

RADIOLOGY

	Participation Status							
	Participants		Non-Participants		Non-Participants			
					Assigned		Unassigned	
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
CLAIMS PER USER OF SERVICES								
Iowa BS	3.7%	-1.6%	7.4%	-3.8%	-3.4%	-0.9%	14.2%	-1.9%
Maryland BS	11.6%	14.1%	1.1%	1.4%	1.2%	0.2%	0.2%	2.5%
Penn. BS - Penn.	2.5%	-5.6%	0.6%	-8.8%	2.4%	-17.6%	4.1%	-13.3%
Penn. BS - D.C.	-4.7%	3.0%	-32.1%	-8.4%	-36.1%	-18.9%	-0.8%	-3.9%
Penn. BS - Del.	2.9%	-2.8%	-25.5%	58.0%	17.6%	-5.1%	-0.8%	15.0%
Prudential - Ga	-1.1%	4.2%	-1.9%	1.3%	-1.5%	1.3%	-1.0%	2.8%
Prudential - N.C.	1.8%	0.3%	0.3%	-3.7%	1.1%	-3.5%	3.0%	-3.4%
Prudential - N.J.	2.2%	0.4%	1.6%	-0.3%	0.6%	2.7%	2.5%	-2.8%
Texas BS	0.1%	-0.2%	0.9%	2.3%	1.4%	3.4%	-0.5%	0.5%
SERVICES PER USER OF SERVICES								
Iowa BS	-8.0%	1.7%	-1.6%	-15.1%	-13.8%	-9.6%	10.5%	-13.3%
Maryland BS	-8.6%	9.7%	12.1%	7.1%	23.6%	9.4%	-2.7%	3.7%
Penn. BS - Penn.	1.7%	-6.6%	-1.2%	-5.8%	2.6%	-17.0%	1.1%	-6.1%
Penn. BS - D.C.	-12.1%	1.8%	-51.2%	-15.0%	-54.7%	-28.3%	-2.7%	-4.0%
Penn. BS - Del.	3.2%	-5.8%	-35.1%	68.2%	23.2%	-18.6%	-10.3%	274.6%
Prudential - Ga	1.2%	-7.6%	-0.3%	-0.8%	0.9%	1.6%	-0.9%	-1.8%
Prudential - N.C.	-3.0%	-1.6%	3.0%	-8.8%	2.3%	-7.0%	13.7%	-9.3%
Prudential - N.J.	0.3%	-1.8%	3.4%	-0.4%	2.1%	4.6%	4.6%	-4.6%
Texas BS	-5.2%	-5.2%	-5.3%	-1.8%	-4.6%	-1.1%	-5.9%	-2.6%
SUBMITTED CHARGES PER USER OF SERVICES								
Iowa BS	-4.1%	7.1%	-0.1%	-12.4%	33.3%	1.8%	-23.1%	-14.5%
Maryland BS	12.9%	14.4%	0.2%	31.4%	-4.9%	36.6%	-2.2%	23.3%
Penn. BS - Penn.	7.7%	1.3%	8.9%	-10.3%	14.8%	-21.3%	13.9%	-10.6%
Penn. BS - D.C.	-0.1%	-1.8%	-59.4%	-1.1%	-69.2%	-26.6%	11.9%	14.2%
Penn. BS - Del.	10.3%	8.1%	-27.4%	70.5%	31.9%	-14.4%	104.8%	203.8%
Prudential - Ga	11.0%	-2.1%	10.2%	3.2%	12.2%	6.9%	5.5%	-1.3%
Prudential - N.C.	-0.3%	4.7%	13.9%	-0.7%	13.5%	0.5%	12.8%	-1.7%
Prudential - N.J.	6.5%	5.0%	12.5%	2.0%	12.0%	7.5%	12.8%	-2.2%
Texas BS	2.8%	1.6%	0.2%	2.5%	2.1%	3.5%	-2.4%	0.7%
ALLOWED CHARGES PER USER OF SERVICES								
Iowa BS	-13.6%	17.1%	-4.9%	-5.1%	41.0%	5.4%	-31.6%	-4.5%
Maryland BS	12.1%	10.1%	9.0%	19.8%	10.2%	23.0%	-1.3%	14.1%
Penn. BS - Penn.	2.2%	-6.0%	2.4%	-8.9%	6.7%	-19.1%	7.4%	-11.2%
Penn. BS - D.C.	-3.3%	-1.7%	-55.6%	-0.3%	-66.1%	-22.1%	5.7%	10.8%
Penn. BS - Del.	3.3%	7.7%	-27.9%	74.3%	21.2%	-5.4%	159.8%	118.2%
Prudential - Ga	0.5%	-3.3%	0.1%	1.2%	2.7%	3.6%	-4.6%	-0.9%
Prudential - N.C.	-9.8%	.1.8%	-0.7%	-4.6%	-3.2%	-4.2%	4.2%	-5.0%
Prudential - N.J.	1.2%	-3.6%	-0.3%	-5.6%	-2.4%	-3.2%	1.3%	-7.4%
Texas BS	-2.6%	-1.2%	-4.9%	2.9%	-5.4%	3.7%	-5.5%	0.8%

TABLE 3B

PERCENT CHANGE IN CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

GENERAL PRACTICE

Jan-Mar Quarter	Participation Status: Participants 84/83	Participants 85/84	Non-Participants 84/83	Non-Participants 85/84	Non-Participants: Assigned 84/83	Assigned 85/84	Non-Participants: Unassigned 84/83	Unassigned 85/84
CLAIMS								
Iowa BS	3.8%	-2.5%	1.4%	-23.1%	-2.7%	-2.1%	2.6%	-29.1%
Maryland BS	7.4%	50.4%	-1.0%	-7.1%	2.4%	-10.9%	-2.5%	-5.3%
Penn. BS - Penn.	1.0%	6.4%	-1.7%	-2.5%	0.8%	-2.5%	-2.2%	-2.5%
Penn. BS - D.C.	-8.3%	22.1%	-14.1%	5.6%	-23.0%	10.5%	-9.1%	3.2%
Penn. BS - Del.	-6.0%	75.6%	-8.0%	-0.5%	-17.3%	-5.1%	-5.2%	0.7%
Prudential - Ga	10.0%	17.3%	14.1%	1.0%	11.9%	-1.0%	16.5%	3.2%
Prudential - N.C.	16.6%	32.6%	14.3%	4.2%	4.7%	-6.2%	19.1%	8.9%
Prudential - N.J.	10.6%	48.8%	10.8%	0.3%	6.5%	-5.1%	12.3%	2.1%
Texas BS	7.7%	5.2%	5.6%	-5.4%	3.3%	-9.9%	7.3%	-2.2%
SERVICES								
Iowa BS	-1.5%	-36.7%	-9.7%	-50.2%	-12.9%	-25.5%	-9.0%	-55.2%
Maryland BS	-0.7%	19.7%	-4.0%	-16.9%	-4.4%	-22.9%	-3.8%	-14.4%
Penn. BS - Penn.	-4.7%	1.2%	-7.6%	-5.1%	-11.9%	-21.8%	-6.2%	-0.2%
Penn. BS - D.C.	-9.1%	23.2%	-18.3%	2.0%	-26.3%	0.9%	-13.6%	2.6%
Penn. BS - Del.	-8.8%	47.3%	-9.0%	-6.7%	-13.0%	-36.0%	-7.1%	5.8%
Prudential - Ga	14.3%	3.0%	27.6%	-7.1%	15.0%	-9.2%	39.2%	-5.4%
Prudential - N.C.	23.1%	5.0%	27.3%	-4.9%	2.8%	-15.4%	41.0%	-6.7%
Prudential - N.J.	30.4%	10.3%	32.8%	-6.9%	18.2%	-12.0%	40.7%	-4.6%
Texas BS	2.0%	-6.5%	-0.8%	-13.0%	-4.0%	-18.4%	1.3%	-9.5%
SUBMITTED CHARGES								
Iowa BS	1.2%	-28.5%	-5.0%	-48.2%	-6.7%	-25.2%	-4.7%	-53.4%
Maryland BS	4.7%	26.4%	0.3%	-14.0%	0.5%	-24.6%	0.1%	-7.6%
Penn. BS - Penn.	0.1%	7.7%	-0.4%	-1.3%	-1.3%	-27.7%	0.0%	10.9%
Penn. BS - D.C.	0.5%	23.6%	-11.9%	11.8%	-28.0%	13.7%	0.4%	10.8%
Penn. BS - Del.	-6.8%	55.3%	-1.4%	-5.8%	1.9%	-42.1%	-3.2%	15.1%
Prudential - Ga	22.4%	7.6%	28.8%	-3.6%	20.0%	-4.4%	37.7%	-3.0%
Prudential - N.C.	24.9%	8.0%	24.5%	-4.7%	8.8%	-12.5%	35.0%	-6.5%
Prudential - N.J.	35.6%	16.5%	38.2%	-4.1%	30.8%	-10.7%	45.0%	-0.2%
Texas BS	8.9%	-1.6%	7.3%	-10.8%	6.5%	-15.5%	7.9%	-7.4%
ALLOWED CHARGES								
Iowa BS	2.8%	-31.9%	-5.7%	-48.1%	-6.0%	-28.5%	-5.6%	-52.6%
Maryland BS	3.7%	16.8%	1.1%	-19.0%	1.9%	-31.9%	0.6%	-11.3%
Penn. BS - Penn.	0.9%	2.0%	-0.9%	-4.8%	-3.2%	-28.6%	0.1%	4.9%
Penn. BS - D.C.	-4.1%	22.3%	-21.8%	11.5%	-42.5%	22.3%	-6.5%	6.6%
Penn. BS - Del.	-2.1%	44.1%	-2.0%	-9.1%	-2.1%	-40.9%	-1.9%	7.5%
Prudential - Ga	19.7%	-0.6%	23.5%	-7.5%	16.9%	-9.6%	30.6%	-5.5%
Prudential - N.C.	23.6%	3.2%	22.5%	-7.3%	6.4%	-14.9%	33.5%	-3.1%
Prudential - N.J.	33.0%	3.3%	34.2%	-8.7%	24.2%	-13.6%	40.5%	-5.9%
Texas BS	10.4%	-6.8%	7.1%	-14.3%	5.3%	-18.8%	6.4%	-11.1%
USERS OF SERVICES								
Iowa BS	1.5%	-13.0%	-1.5%	-27.3%	-5.2%	-8.5%	-0.5%	-32.3%
Maryland BS	3.5%	44.8%	-2.1%	-8.7%	-2.8%	-11.6%	-1.9%	-7.3%
Penn. BS - Penn.	4.6%	29.6%	4.8%	2.8%	3.6%	42.8%	1.4%	10.8%
Penn. BS - D.C.	-0.2%	17.6%	-5.9%	9.4%	-24.1%	30.6%	3.8%	14.8%
Penn. BS - Del.	-18.2%	63.6%	-1.0%	-1.2%	-12.5%	22.6%	0.3%	10.6%
Prudential - Ga	10.1%	12.9%	8.0%	2.4%	7.2%	2.5%	8.8%	2.3%
Prudential - N.C.	14.9%	27.0%	11.7%	1.9%	4.0%	-7.1%	15.5%	5.9%
Prudential - N.J.	12.1%	31.4%	11.0%	0.6%	8.7%	-4.9%	11.7%	2.3%
Texas BS	6.6%	5.1%	4.7%	-4.5%	1.8%	-8.4%	6.7%	-2.1%

TABLE 3B

PERCENT CHANGE IN CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

ALL MD/DO SPECIALTIES COMBINED

	Participation Status				Non-Participants	
	Participants		Non-Participants		Assigned	Unassigned
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
				CLAIMS				
Iowa BS	16.9%	-4.8%	13.1%	-17.0%	9.1%	-7.2%	11.2%	-19.6%
Maryland BS	14.3%	32.2%	6.8%	11.1%	7.8%	12.3%	5.8%	9.9%
Penn. BS - Penn.	4.8%	12.4%	0.6%	0.3%	-1.1%	-2.7%	1.2%	1.5%
Penn. BS - D.C.	-11.0%	15.4%	-7.3%	2.1%	-10.9%	-1.7%	-5.5%	4.0%
Penn. BS - Del.	5.1%	22.9%	-3.7%	-1.0%	-9.6%	-9.1%	-0.6%	2.9%
Prudential - Ga	12.8%	26.3%	9.4%	2.8%	4.3%	-1.9%	14.1%	6.7%
Prudential - N.C.	5.5%	18.6%	8.9%	1.9%	-6.5%	-1.9%	18.3%	3.7%
Prudential - N.J.	16.1%	16.8%	12.4%	1.2%	15.2%	-0.2%	11.1%	2.0%
Texas BS	-6.5%	7.1%	-0.3%	-3.2%	-10.1%	-7.2%	7.3%	-0.6%
				SERVICES				
Iowa BS	0.1%	-23.8%	0.2%	-40.3%	1.3%	-44.7%	-0.2%	-38.7%
Maryland BS	7.1%	40.3%	-3.2%	1.5%	-5.3%	1.9%	2.0%	0.5%
Penn. BS - Penn.	-1.6%	6.6%	-5.1%	-3.0%	-8.5%	-18.0%	-3.3%	4.7%
Penn. BS - D.C.	-18.1%	9.6%	-10.9%	1.6%	-15.5%	-3.3%	-8.0%	4.3%
Penn. BS - Del.	2.5%	8.0%	-7.0%	-10.4%	-11.8%	-33.9%	-2.6%	9.3%
Prudential - Ga	16.0%	8.7%	17.8%	-3.1%	5.3%	-7.5%	27.6%	-0.2%
Prudential - N.C.	6.4%	5.9%	15.4%	-7.5%	-6.1%	-12.6%	28.0%	-5.2%
Prudential - N.J.	21.1%	6.2%	22.3%	-2.4%	18.5%	-4.1%	24.7%	-1.4%
Texas BS	-28.7%	-6.9%	-18.4%	-11.3%	-33.9%	-16.5%	-1.8%	-7.6%
				SUBMITTED CHARGES				
Iowa BS	11.1%	-19.9%	8.7%	-32.5%	9.8%	-22.0%	8.4%	-35.4%
Maryland BS	12.3%	32.7%	14.7%	13.2%	16.2%	16.4%	12.4%	8.2%
Penn. BS - Penn.	5.8%	14.0%	4.4%	4.4%	3.1%	-17.4%	5.6%	24.0%
Penn. BS - D.C.	3.5%	12.8%	-8.9%	7.0%	-11.1%	-6.6%	-7.2%	16.7%
Penn. BS - Del.	13.2%	10.9%	11.3%	-4.6%	7.9%	-29.7%	16.1%	23.9%
Prudential - Ga	23.1%	19.5%	23.2%	3.7%	18.4%	3.3%	27.3%	4.1%
Prudential - N.C.	15.8%	12.5%	18.9%	-2.4%	5.2%	-1.6%	28.0%	-2.9%
Prudential - N.J.	24.5%	13.0%	28.3%	2.3%	27.2%	1.7%	29.3%	2.8%
Texas BS	6.0%	10.3%	6.0%	-0.2%	3.5%	-0.3%	8.0%	-0.1%
				ALLOWED CHARGES				
Iowa BS	13.5%	-20.5%	9.9%	-31.4%	13.7%	-21.8%	8.8%	-34.2%
Maryland BS	11.9%	27.1%	14.0%	8.6%	15.8%	11.3%	11.2%	4.4%
Penn. BS - Penn.	3.8%	6.7%	2.2%	0.9%	-0.6%	-20.4%	4.6%	18.5%
Penn. BS - D.C.	1.5%	10.4%	-9.3%	4.1%	-11.5%	-8.7%	-7.7%	12.7%
Penn. BS - Del.	8.9%	10.0%	6.2%	-6.7%	0.8%	-29.5%	12.9%	18.6%
Prudential - Ga	17.5%	12.3%	18.1%	0.6%	13.9%	0.3%	21.7%	0.8%
Prudential - N.C.	12.2%	5.8%	14.9%	-5.5%	0.7%	-4.7%	24.5%	-6.0%
Prudential - N.J.	19.3%	2.9%	22.2%	-3.3%	20.9%	-3.4%	23.2%	-3.2%
Texas BS	4.6%	6.2%	4.6%	-2.3%	1.3%	-1.7%	7.3%	-2.7%
				USERS OF SERVICES				
Iowa BS	8.8%	-6.1%	3.1%	-15.4%	5.1%	-6.6%	4.4%	-18.0%
Maryland BS	8.6%	21.9%	3.7%	6.5%	3.2%	9.5%	4.7%	4.5%
Penn. BS - Penn.	7.7%	20.5%	4.6%	3.5%	3.0%	28.9%	5.5%	11.8%
Penn. BS - D.C.	3.8%	15.1%	-2.8%	7.1%	-7.9%	41.4%	-2.0%	15.7%
Penn. BS - Del.	4.8%	24.9%	2.4%	2.1%	-5.6%	17.0%	4.5%	10.2%
Prudential - Ga	12.0%	21.2%	8.7%	2.7%	3.9%	-1.5%	13.0%	6.1%
Prudential - N.C.	5.8%	19.4%	7.3%	2.3%	-7.6%	-1.2%	16.4%	4.0%
Prudential - N.J.	14.1%	11.9%	11.1%	2.7%	14.7%	2.6%	9.5%	2.8%
Texas BS	3.9%	15.6%	5.2%	-2.9%	-2.0%	-3.4%	10.4%	-2.6%

TABLE 3B

PERCENT CHANGE IN CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

FAMILY PRACTICE

	Participation Status							
	Participants		Non-Participants		Non-Participants			
					Assigned		Unassigned	
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
				CLAIMS				
Iowa BS	13.9%	12.4%	8.3%	-14.5%	1.8%	4.1%	10.1%	-19.1%
Maryland BS	7.6%	58.5%	-0.5%	17.2%	-10.4%	25.9%	5.3%	12.8%
Penn. BS - Penn.	7.1%	19.0%	6.2%	4.3%	4.6%	-1.2%	6.6%	5.8%
Penn. BS - D.C.	2.0%	11.1%	-1.9%	1.6%	-5.4%	4.6%	-0.7%	0.6%
Penn. BS - Del.	27.5%	32.8%	21.0%	-0.6%	27.1%	5.0%	17.1%	-4.6%
Prudential - Ga								
Prudential - N.C.								
Prudential - N.J.	3.2%	51.8%	15.4%	2.5%	12.3%	-8.6%	16.3%	5.9%
Texas BS								
				SERVICES				
Iowa BS	13.8%	-11.3%	-1.9%	-36.4%	-7.4%	-21.9%	-0.6%	-39.7%
Maryland BS	-1.4%	25.7%	-0.5%	6.1%	-8.6%	16.5%	4.5%	0.6%
Penn. BS - Penn.	1.3%	11.8%	1.7%	-0.3%	-3.2%	-22.1%	3.6%	7.6%
Penn. BS - D.C.	-1.5%	6.4%	-5.2%	-0.4%	-8.1%	-7.6%	-4.1%	2.3%
Penn. BS - Del.	12.7%	25.6%	15.2%	-18.1%	9.6%	-32.0%	22.4%	-1.8%
Prudential - Ga								
Prudential - N.C.								
Prudential - N.J.	12.2%	16.6%	30.2%	-3.4%	17.8%	-12.1%	36.5%	0.3%
Texas BS								
				SUBMITTED CHARGES				
Iowa BS	15.7%	-15.7%	3.0%	-35.7%	-0.5%	-25.4%	3.9%	-38.4%
Maryland BS	5.0%	21.1%	5.2%	17.2%	3.5%	28.2%	6.6%	8.5%
Penn. BS - Penn.	5.0%	18.8%	8.2%	0.8%	5.3%	-30.8%	9.8%	18.4%
Penn. BS - D.C.	2.0%	13.3%	0.2%	-1.7%	-1.5%	-17.2%	1.1%	6.7%
Penn. BS - Del.	3.0%	32.4%	27.4%	-17.6%	17.5%	-36.2%	45.3%	9.7%
Prudential - Ga								
Prudential - N.C.								
Prudential - N.J.	14.7%	23.0%	35.7%	-3.2%	25.1%	-12.0%	42.3%	1.7%
Texas BS								
				ALLOWED CHARGES				
Iowa BS	19.8%	-19.0%	4.5%	-36.8%	2.4%	-26.8%	5.0%	-39.4%
Maryland BS	3.9%	17.0%	6.9%	8.9%	5.1%	15.3%	8.4%	4.0%
Penn. BS - Penn.	6.3%	11.2%	8.3%	-2.3%	5.2%	-31.9%	10.0%	13.3%
Penn. BS - D.C.	1.4%	3.3%	-0.8%	-4.8%	-0.4%	-19.5%	-1.0%	2.7%
Penn. BS - Del.	1.5%	35.8%	34.5%	-20.5%	28.4%	-38.5%	44.7%	6.1%
Prudential - Ga								
Prudential - N.C.								
Prudential - N.J.	11.3%	9.7%	29.5%	-7.6%	16.6%	-14.6%	37.5%	-4.0%
Texas BS								
				USERS OF SERVICES				
Iowa BS	8.1%	1.5%	5.6%	-15.9%	3.8%	-3.0%	5.9%	-19.1%
Maryland BS	3.9%	42.7%	0.8%	9.6%	-9.5%	17.3%	5.1%	7.3%
Penn. BS - Penn.	10.8%	37.3%	9.7%	8.0%	9.6%	49.4%	10.6%	15.1%
Penn. BS - D.C.	1.2%	16.8%	-2.1%	6.9%	-10.5%	50.7%	0.6%	14.4%
Penn. BS - Del.	42.8%	41.8%	32.4%	3.6%	51.6%	18.8%	25.0%	13.5%
Prudential - Ga								
Prudential - N.C.								
Prudential - N.J.	5.1%	39.9%	15.2%	4.2%	11.4%	-2.5%	16.2%	5.8%
Texas BS								

TABLE 3B

PERCENT CHANGE IN CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

INTERNAL MEDICINE

	Participation Status				Non-Participants	
	Participants		Non-Participants		Assigned	Unassigned
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83 85/84	84/83 85/84
CLAIMS						
Iowa BS	24.9%	-12.4%	6.6%	-10.7%	-10.7% 3.6%	10.7% -13.3%
Maryland BS	8.5%	38.0%	8.7%	5.3%	15.2% 2.2%	5.1% 7.2%
Penn. BS - Penn.	-0.2%	15.8%	-3.1%	-1.6%	-3.1% -3.3%	-3.1% -0.9%
Penn. BS - D.C.	-4.1%	13.6%	-7.7%	-1.3%	-14.9% -6.5%	-5.0% 0.5%
Penn. BS - Del.	-1.2%	21.3%	-7.8%	12.5%	-18.7% 10.0%	-3.3% 13.4%
Prudential - Ga	13.8%	32.2%	13.1%	5.5%	7.0% 1.3%	16.5% 7.7%
Prudential - N.C.	6.1%	24.7%	12.6%	1.3%	8.5% 3.9%	13.9% 0.6%
Prudential - N.J.	14.8%	30.2%	11.2%	4.2%	12.1% -1.2%	10.9% 6.1%
Texas BS	4.1%	7.4%	9.5%	-2.0%	10.8% -4.5%	8.9% -0.8%
SERVICES						
Iowa BS	5.8%	-29.6%	-6.9%	-28.0%	-11.5% -20.2%	-5.8% -29.9%
Maryland BS	2.8%	21.1%	1.6%	-3.5%	3.8% -6.6%	-0.3% -0.9%
Penn. BS - Penn.	-7.7%	5.7%	-9.3%	-6.9%	-10.9% -26.4%	-8.2% 5.8%
Penn. BS - D.C.	-9.7%	5.7%	-10.6%	-1.6%	-16.4% -5.5%	-7.9% 0.0%
Penn. BS - Del.	-1.6%	10.2%	-9.0%	1.6%	-10.5% -32.7%	-7.8% 26.8%
Prudential - Ga	12.8%	12.3%	18.9%	-0.7%	13.9% -3.7%	21.7% 0.8%
Prudential - N.C.	3.1%	6.6%	14.1%	-9.1%	7.1% -9.2%	16.7% -9.1%
Prudential - N.J.	16.6%	7.9%	17.2%	-4.3%	14.7% -7.1%	18.8% -2.5%
Texas BS	-1.5%	-5.9%	0.6%	-10.7%	-1.4% -13.2%	1.6% -9.4%
SUBMITTED CHARGES						
Iowa BS	6.5%	-13.7%	-3.6%	-27.4%	-7.7% -21.0%	-2.5% -29.1%
Maryland BS	11.2%	24.1%	10.2%	1.3%	14.9% -2.4%	3.8% 6.9%
Penn. BS - Penn.	-1.1%	13.7%	-1.2%	-4.6%	1.2% -31.3%	-3.6% 22.8%
Penn. BS - D.C.	-8.2%	4.2%	-9.0%	-2.1%	-15.6% -9.0%	-5.2% 1.4%
Penn. BS - Del.	-1.0%	25.3%	-3.9%	2.8%	-4.2% -36.8%	-3.7% 43.9%
Prudential - Ga	18.1%	25.1%	24.3%	1.1%	25.1% -2.8%	23.8% 3.7%
Prudential - N.C.	9.0%	5.7%	17.0%	-9.1%	10.5% -8.4%	20.0% -9.4%
Prudential - N.J.	21.9%	18.3%	23.2%	-0.2%	21.1% -1.7%	25.1% 1.2%
Texas BS	6.8%	0.0%	7.2%	-8.7%	6.9% -10.4%	7.3% -7.7%
ALLOWED CHARGES						
Iowa BS	13.8%	-20.6%	-2.0%	-26.8%	-6.7% -20.3%	-0.7% -28.5%
Maryland BS	11.2%	18.1%	10.2%	-2.9%	15.8% -6.5%	3.0% 2.2%
Penn. BS - Penn.	-1.9%	5.3%	-3.1%	-8.1%	-2.1% -33.3%	-4.0% 15.8%
Penn. BS - D.C.	-6.8%	2.9%	-8.9%	-6.1%	-15.2% -12.0%	-5.4% -3.1%
Penn. BS - Del.	3.1%	14.1%	-5.8%	-0.6%	-5.7% -38.1%	-5.9% 36.1%
Prudential - Ga	14.2%	18.4%	18.5%	-0.7%	20.3% -4.2%	17.2% 1.7%
Prudential - N.C.	7.1%	0.8%	13.8%	-11.6%	6.6% -10.6%	17.2% -12.0%
Prudential - N.J.	18.0%	8.6%	18.6%	-5.0%	16.6% -6.2%	20.5% -5.3%
Texas BS	5.7%	-5.7%	8.5%	-11.8%	8.0% -12.2%	8.9% -11.6%
USERS OF SERVICES						
Iowa BS	26.3%	-13.6%	3.0%	-12.5%	-15.8% 1.3%	6.7% -14.5%
Maryland BS	4.4%	26.5%	5.3%	2.0%	9.5% 1.3%	4.0% 2.8%
Penn. BS - Penn.	6.2%	23.4%	2.1%	1.1%	1.5% 37.7%	2.7% 11.4%
Penn. BS - D.C.	1.1%	14.6%	-4.2%	4.7%	-10.2% 59.1%	-3.5% 15.9%
Penn. BS - Del.	1.4%	30.0%	-1.9%	12.4%	-21.3% 66.1%	3.6% 17.2%
Prudential - Ga	11.7%	17.0%	7.4%	4.5%	1.4% 1.8%	11.5% 6.2%
Prudential - N.C.	5.3%	14.4%	10.3%	1.7%	7.5% 5.2%	11.3% 0.4%
Prudential - N.J.	14.0%	22.7%	11.5%	4.8%	14.0% -0.2%	10.8% 6.4%
Texas BS	3.5%	6.5%	7.9%	-2.2%	8.4% -3.0%	7.3% -1.8%

TABLE 3B

PERCENT CHANGE IN CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

CARDIOLOGY

	Participation Status				Non-Participants			
	Participants		Non-Participants		Assigned		Unassigned	
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
				CLAIMS				
Iowa BS	17.1%	0.1%	37.5%	-18.4%	54.6%	-5.4%	27.9%	-27.2%
Maryland BS	1.9%	19.3%	15.4%	9.0%	21.3%	3.8%	10.2%	14.1%
Penn. BS - Penn.	11.5%	1.1%	9.8%	-2.6%	0.0%	-16.1%	16.6%	5.4%
Penn. BS - D.C.	24.7%	17.2%	-12.3%	2.5%	-18.1%	13.4%	-8.5%	-3.7%
Penn. BS - Del.	14.4%	-13.9%	-17.2%	-50.0%	-35.6%	-45.0%	23.6%	-55.9%
Prudential - Ga								
Prudential - N.C.	33.3%	1.6%	33.0%	21.8%	31.4%	-11.2%	33.7%	36.0%
Prudential - N.J.	40.6%	6.3%	21.2%	8.4%	26.3%	7.8%	18.7%	8.6%
Texas BS	11.1%	-6.0%	14.3%	-1.9%	18.4%	-12.8%	10.6%	8.0%
				SERVICES				
Iowa BS	2.7%	-19.3%	28.6%	-32.8%	63.5%	-22.3%	14.5%	-38.9%
Maryland BS	-1.6%	18.6%	5.2%	7.2%	8.5%	4.7%	1.5%	10.3%
Penn. BS - Penn.	3.4%	-5.6%	0.1%	-9.0%	-9.7%	-32.0%	8.8%	8.1%
Penn. BS - D.C.	21.7%	5.8%	-17.5%	1.2%	-24.7%	7.7%	-11.9%	-3.2%
Penn. BS - Del.	9.2%	-26.9%	-18.1%	-57.5%	-42.2%	-50.9%	50.5%	-64.7%
Prudential - Ga								
Prudential - N.C.	22.8%	-3.2%	21.9%	12.3%	20.2%	-8.7%	22.8%	24.0%
Prudential - N.J.	47.4%	-0.8%	25.7%	0.5%	23.7%	0.6%	27.5%	0.4%
Texas BS	9.6%	-15.6%	1.0%	-3.3%	1.4%	-9.8%	0.5%	3.0%
				SUBMITTED CHARGES				
Iowa BS	13.9%	-29.1%	19.9%	-23.4%	28.5%	10.2%	14.9%	-44.9%
Maryland BS	-2.0%	25.3%	18.0%	11.6%	24.5%	9.8%	7.1%	14.9%
Penn. BS - Penn.	9.3%	5.5%	1.0%	-3.7%	-7.2%	-24.9%	10.6%	17.2%
Penn. BS - D.C.	30.9%	14.4%	-17.4%	15.1%	-20.9%	18.4%	-14.6%	12.6%
Penn. BS - Del.	-6.0%	-40.1%	-12.2%	-68.5%	-41.1%	-60.9%	113.9%	-77.5%
Prudential - Ga								
Prudential - N.C.	28.3%	25.4%	32.2%	25.0%	28.3%	8.3%	34.4%	34.0%
Prudential - N.J.	70.4%	1.1%	39.1%	5.6%	36.4%	6.0%	42.2%	5.3%
Texas BS	12.2%	2.6%	8.2%	6.4%	5.3%	-0.9%	11.3%	13.8%
				ALLOWED CHARGES				
Iowa BS	23.2%	-26.4%	32.0%	-22.0%	51.3%	16.7%	23.1%	-44.1%
Maryland BS	-1.4%	21.7%	22.1%	8.0%	29.6%	6.3%	10.3%	11.2%
Penn. BS - Penn.	3.8%	-1.2%	-0.9%	-6.1%	-12.0%	-27.4%	11.2%	12.2%
Penn. BS - D.C.	25.9%	9.5%	-17.3%	12.1%	-23.5%	16.5%	-12.3%	9.0%
Penn. BS - Del.	-3.5%	-36.7%	-11.8%	-68.2%	-37.8%	-62.2%	84.5%	-75.6%
Prudential - Ga								
Prudential - N.C.	24.2%	13.0%	28.8%	19.1%	30.9%	2.8%	27.6%	28.7%
Prudential - N.J.	45.2%	-5.9%	31.1%	0.7%	28.4%	1.4%	34.2%	0.0%
Texas BS	12.9%	-0.4%	10.6%	3.1%	7.7%	-3.2%	13.7%	9.5%
				USERS OF SERVICES				
Iowa BS	15.9%	1.4%	46.9%	-14.7%	91.1%	-5.6%	28.3%	-22.0%
Maryland BS	2.2%	14.7%	12.4%	7.9%	22.4%	1.2%	9.0%	12.3%
Penn. BS - Penn.	17.5%	6.1%	22.4%	-1.4%	5.8%	11.8%	33.3%	13.0%
Penn. BS - D.C.	29.6%	14.3%	-10.6%	11.8%	-16.6%	41.3%	-5.6%	23.7%
Penn. BS - Del.	10.6%	-14.5%	-5.4%	-42.6%	-32.5%	-22.8%	18.2%	-52.6%
Prudential - Ga								
Prudential - N.C.	25.7%	0.8%	44.7%	11.0%	51.1%	-18.8%	41.5%	26.9%
Prudential - N.J.	35.5%	4.6%	20.3%	6.8%	24.5%	3.6%	18.2%	8.4%
Texas BS	11.4%	-6.7%	15.0%	-4.3%	20.4%	-15.4%	9.7%	6.0%

TABLE 3B

PERCENT CHANGE IN CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

GENERAL SURGERY

	Participation Status							
	Participants		Non-Participants		Non-Participants			
					Assigned		Unassigned	
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
CLAIMS								
Iowa BS	1.6%	-4.5%	4.4%	-21.1%	13.2%	-2.0%	2.0%	-26.9%
Maryland BS	8.7%	27.7%	4.3%	7.4%	6.5%	7.1%	2.3%	7.7%
Penn. BS - Penn.	-2.8%	11.0%	-13.3%	-1.2%	-17.3%	-1.1%	-9.7%	-1.3%
Penn. BS - D.C.	-19.5%	16.9%	-15.2%	6.1%	-10.5%	-11.6%	-19.4%	20.2%
Penn. BS - Del.	0.8%	23.9%	0.3%	-7.5%	12.4%	3.4%	-14.5%	-25.2%
Prudential - Ga	6.7%	15.5%	10.8%	0.3%	10.3%	0.6%	11.2%	0.1%
Prudential - N.C.	2.7%	3.6%	0.9%	-5.4%	-7.2%	-6.4%	6.5%	-4.8%
Prudential - N.J.	9.0%	20.7%	14.2%	-1.4%	13.4%	0.9%	14.7%	-2.9%
Texas BS	7.4%	2.5%	4.5%	-5.3%	6.4%	-10.8%	3.2%	-1.7%
SERVICES								
Iowa BS	-4.8%	-25.1%	-3.9%	-36.0%	0.5%	-20.1%	-5.1%	-40.8%
Maryland BS	-1.8%	18.1%	-3.2%	0.1%	-3.0%	0.9%	-3.5%	-0.7%
Penn. BS - Penn.	-8.6%	1.8%	-18.6%	-4.3%	-22.8%	-7.4%	-14.2%	-1.5%
Penn. BS - D.C.	-18.3%	3.9%	-23.1%	0.2%	-22.4%	-19.4%	-23.7%	18.7%
Penn. BS - Del.	0.7%	8.8%	-15.4%	-14.9%	-15.9%	-11.4%	-14.5%	-21.5%
Prudential - Ga	10.5%	4.7%	21.3%	-8.4%	12.4%	-10.3%	28.7%	-7.1%
Prudential - N.C.	6.0%	-3.7%	0.1%	-10.2%	-11.6%	-13.3%	9.9%	-8.2%
Prudential - N.J.	10.3%	9.9%	21.8%	-3.9%	16.9%	-2.9%	24.2%	-4.7%
Texas BS	-2.2%	-1.5%	-1.0%	-15.8%	2.6%	-19.2%	-3.1%	-13.6%
SUBMITTED CHARGES								
Iowa BS	10.0%	-28.4%	6.7%	-36.5%	12.6%	-14.2%	4.9%	-43.5%
Maryland BS	6.6%	28.3%	8.6%	8.2%	10.2%	15.5%	6.6%	-1.4%
Penn. BS - Penn.	0.7%	9.9%	-16.0%	5.5%	-17.8%	-4.1%	-13.6%	17.0%
Penn. BS - D.C.	-16.0%	19.5%	-5.3%	3.9%	1.2%	-28.2%	-11.2%	37.2%
Penn. BS - Del.	11.9%	15.6%	34.4%	-0.7%	41.9%	16.0%	28.8%	-14.2%
Prudential - Ga	20.5%	19.1%	16.4%	1.3%	16.1%	-0.3%	16.6%	2.8%
Prudential - N.C.	14.1%	-1.5%	13.9%	-1.8%	6.2%	-4.7%	20.5%	0.3%
Prudential - N.J.	18.6%	15.7%	25.1%	1.9%	28.0%	1.8%	22.0%	2.0%
Texas BS	4.5%	9.9%	4.3%	5.3%	8.5%	1.2%	1.1%	8.7%
ALLOWED CHARGES								
Iowa BS	9.3%	-27.8%	8.7%	-35.0%	14.5%	-9.8%	7.1%	-42.3%
Maryland BS	6.4%	21.1%	7.6%	3.8%	9.4%	9.4%	5.5%	-3.3%
Penn. BS - Penn.	-0.6%	4.9%	-16.5%	2.9%	-19.5%	-4.9%	-13.0%	11.3%
Penn. BS - D.C.	-14.6%	21.0%	-4.1%	3.5%	0.8%	-29.1%	-8.5%	35.1%
Penn. BS - Del.	9.6%	14.6%	22.6%	1.3%	31.5%	16.7%	15.9%	-11.8%
Prudential - Ga	18.6%	9.9%	14.5%	-2.4%	14.2%	-3.3%	14.7%	-1.6%
Prudential - N.C.	13.9%	-6.0%	12.0%	-5.3%	4.7%	-7.1%	18.3%	-4.0%
Prudential - N.J.	16.4%	4.7%	20.9%	-3.3%	22.5%	-2.5%	19.2%	-4.2%
Texas BS	5.4%	5.4%	5.5%	2.3%	9.5%	-0.9%	2.5%	5.0%
USERS OF SERVICES								
Iowa BS	-1.3%	-7.6%	4.0%	-21.9%	10.0%	-1.7%	3.2%	-28.2%
Maryland BS	5.4%	19.0%	2.7%	4.8%	4.2%	4.4%	2.5%	4.6%
Penn. BS - Penn.	-0.6%	11.7%	-10.3%	-7.5%	-10.1%	-7.8%	-11.3%	9.7%
Penn. BS - D.C.	-17.8%	19.8%	-13.9%	11.4%	-10.3%	12.0%	-18.3%	31.8%
Penn. BS - Del.	6.6%	19.8%	4.9%	-6.3%	18.5%	9.4%	-14.9%	-19.5%
Prudential - Ga	10.4%	15.5%	6.5%	2.2%	7.3%	3.4%	5.9%	1.4%
Prudential - N.C.	2.4%	2.2%	1.1%	-2.9%	-3.7%	-6.6%	4.3%	-0.7%
Prudential - N.J.	7.5%	14.9%	13.7%	-1.8%	12.4%	0.1%	14.6%	-3.1%
Texas BS	8.0%	-0.4%	3.3%	-3.9%	5.3%	-7.7%	1.9%	-1.5%

TABLE 3B

PERCENT CHANGE IN CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

ORTHOPEDIC SURGERY

	Participation Status				Non-Participants			
	Participants		Non-Participants		Assigned		Unassigned	
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
				CLAIMS				
Iowa BS	2.3%	-8.5%	7.7%	-18.1%	17.5%	31.0%	5.3%	-31.1%
Maryland BS	13.0%	13.5%	13.7%	-1.7%	15.8%	-1.4%	12.1%	-2.0%
Penn. BS - Penn.	2.1%	5.9%	2.6%	5.4%	1.6%	1.5%	3.4%	8.7%
Penn. BS - B.C.	2.4%	8.9%	-10.3%	4.2%	-15.3%	9.4%	-7.7%	1.3%
Penn. BS - Del.	10.3%	19.0%	35.5%	-33.5%	48.6%	-38.9%	1.8%	-13.5%
Prudential - Ga	12.9%	23.8%	14.8%	2.4%	16.7%	5.0%	14.1%	1.3%
Prudential - N.C.	11.7%	-0.6%	4.3%	3.5%	3.5%	14.7%	4.5%	0.7%
Prudential - N.J.	10.0%	15.6%	9.3%	-8.1%	13.4%	-10.0%	7.7%	-7.2%
Texas BS	16.6%	4.1%	8.6%	-2.0%	10.1%	-2.1%	8.1%	-2.0%
				SERVICES				
Iowa BS	-1.0%	-19.5%	-4.2%	-29.2%	11.0%	10.7%	-7.6%	-40.2%
Maryland BS	9.4%	8.0%	4.6%	-4.5%	4.9%	-4.1%	4.4%	-4.9%
Penn. BS - Penn.	-2.6%	2.4%	-1.9%	2.8%	-3.6%	-1.4%	-0.3%	6.4%
Penn. BS - B.C.	1.4%	5.1%	-9.4%	-1.4%	-11.3%	0.2%	-8.2%	-2.3%
Penn. BS - Del.	4.6%	24.3%	30.9%	-36.0%	40.6%	-40.4%	5.1%	-20.2%
Prudential - Ga	17.2%	11.1%	15.7%	-1.5%	19.6%	-2.7%	14.0%	-0.9%
Prudential - N.C.	11.3%	-6.7%	5.8%	-4.2%	6.0%	0.2%	5.7%	-5.5%
Prudential - N.J.	10.1%	8.2%	12.8%	-10.5%	22.0%	-14.6%	8.7%	-8.4%
Texas BS	11.7%	-1.6%	2.2%	-5.9%	1.6%	-8.8%	2.4%	-4.7%
				SUBMITTED CHARGES				
Iowa BS	19.5%	-24.0%	8.2%	-31.4%	15.0%	14.7%	6.5%	-43.4%
Maryland BS	20.2%	8.8%	22.9%	0.7%	28.8%	0.0%	16.8%	1.6%
Penn. BS - Penn.	4.3%	12.6%	11.0%	11.8%	13.3%	10.2%	8.1%	14.0%
Penn. BS - B.C.	12.1%	4.8%	-12.4%	6.8%	-10.8%	-9.4%	-13.5%	17.7%
Penn. BS - Del.	30.0%	13.7%	9.5%	-8.4%	13.1%	-4.5%	1.8%	-17.8%
Prudential - Ga	22.7%	16.4%	26.7%	4.9%	24.4%	4.0%	28.1%	5.5%
Prudential - N.C.	18.5%	5.6%	11.1%	9.0%	9.7%	12.6%	11.8%	7.2%
Prudential - N.J.	20.2%	19.3%	25.7%	-1.4%	36.2%	-7.1%	19.4%	2.5%
Texas BS	19.9%	20.4%	18.1%	4.8%	16.5%	2.5%	18.9%	5.9%
				ALLOWED CHARGES				
Iowa BS	23.4%	-23.0%	7.3%	-28.1%	13.8%	20.5%	5.7%	-40.6%
Maryland BS	17.1%	3.3%	20.6%	-4.3%	25.1%	-5.3%	15.9%	-3.2%
Penn. BS - Penn.	3.2%	4.2%	9.2%	7.6%	11.2%	6.8%	6.8%	8.6%
Penn. BS - B.C.	9.1%	0.9%	-13.2%	3.5%	-11.6%	-11.0%	-14.2%	13.3%
Penn. BS - Del.	28.5%	11.8%	11.1%	-11.9%	17.6%	-8.3%	-3.2%	-21.9%
Prudential - Ga	18.5%	5.4%	21.4%	0.3%	21.6%	-1.7%	21.3%	1.6%
Prudential - N.C.	18.0%	-2.6%	10.4%	5.5%	7.4%	11.5%	11.9%	2.7%
Prudential - N.J.	20.4%	12.1%	20.0%	-7.3%	29.0%	-12.4%	14.4%	-3.8%
Texas BS	18.8%	16.2%	20.8%	2.8%	18.6%	1.1%	21.9%	3.6%
				USERS OF SERVICES				
Iowa BS	-1.4%	-3.3%	4.0%	-15.0%	15.0%	28.4%	4.6%	-27.6%
Maryland BS	11.2%	6.4%	9.9%	-3.6%	14.7%	-1.1%	7.3%	-4.9%
Penn. BS - Penn.	3.1%	4.7%	5.2%	4.4%	5.0%	11.6%	4.5%	15.3%
Penn. BS - B.C.	4.6%	7.3%	-11.3%	5.6%	-15.6%	41.7%	-12.5%	14.7%
Penn. BS - Del.	8.1%	15.3%	34.4%	-23.3%	52.5%	-21.3%	-0.5%	-10.9%
Prudential - Ga	13.4%	21.9%	12.7%	0.9%	12.2%	2.4%	12.9%	0.3%
Prudential - N.C.	8.8%	1.3%	5.0%	3.2%	3.8%	11.0%	5.3%	0.9%
Prudential - N.J.	9.7%	16.0%	10.0%	-6.9%	13.3%	-9.4%	8.6%	-5.8%
Texas BS	13.1%	1.9%	6.6%	-3.0%	6.3%	-2.0%	6.6%	-3.0%

TABLE 3B

PERCENT CHANGE IN CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

ANESTHESIOLOGY

	Participation Status				Non-Participants			
	Participants		Non-Participants		Assigned		Unassigned	
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
				CLAIMS				
Iowa BS	47.8%	-16.3%	4.9%	-23.5%	5.3%	-31.8%	4.8%	-21.1%
Maryland BS	-2.9%	57.7%	3.6%	9.1%	-16.1%	9.6%	59.6%	8.3%
Penn. BS - Penn.	4.8%	4.5%	12.8%	-1.2%	23.4%	-7.3%	3.6%	5.1%
Penn. BS - D.C.	3.5%	4.8%	3.6%	3.9%	19.8%	12.5%	-5.8%	-2.5%
Penn. BS - Del.	47.9%	-35.0%	8.7%	-92.9%	8.7%	-92.9%		
Prudential - Ga	7.5%	29.0%	16.2%	8.1%	8.0%	12.4%	23.8%	4.6%
Prudential - N.C.	2.9%	-18.9%	6.2%	-0.1%	2.5%	14.9%	9.1%	-10.9%
Prudential - N.J.	17.3%	13.4%	6.5%	1.8%	9.9%	4.8%	4.4%	-0.2%
Texas BS	-10.4%	5.4%	5.1%	-3.0%	-8.7%	0.9%	16.5%	-5.6%
				SERVICES				
Iowa BS	25.6%	-14.5%	1.1%	-25.8%	-5.0%	-23.4%	2.8%	-26.4%
Maryland BS	-16.3%	69.6%	-3.5%	14.7%	-22.6%	18.3%	48.1%	9.6%
Penn. BS - Penn.	-3.8%	18.4%	-3.7%	2.0%	2.5%	1.6%	-9.2%	2.5%
Penn. BS - D.C.	-4.9%	19.3%	5.9%	4.5%	24.8%	13.2%	-4.7%	-1.9%
Penn. BS - Del.	8.9%	-31.6%	-23.5%	-88.6%	-23.5%	-88.6%		
Prudential - Ga	12.2%	34.7%	25.4%	2.6%	9.0%	11.7%	40.1%	-3.9%
Prudential - N.C.	8.4%	-24.1%	4.4%	-0.6%	-0.6%	14.4%	8.4%	-11.7%
Prudential - N.J.	20.8%	11.0%	6.0%	1.9%	7.3%	4.9%	5.2%	0.0%
Texas BS	-35.9%	-1.3%	-0.4%	2.6%	-16.1%	13.6%	14.6%	-5.2%
				SUBMITTED CHARGES				
Iowa BS	27.0%	-7.6%	6.1%	-25.1%	2.5%	-30.2%	7.1%	-23.8%
Maryland BS	-2.0%	81.5%	19.3%	11.0%	-7.1%	13.1%	95.5%	8.0%
Penn. BS - Penn.	16.8%	16.6%	24.5%	-0.5%	33.7%	0.1%	16.1%	-1.0%
Penn. BS - D.C.	19.8%	12.8%	19.9%	7.6%	40.7%	12.9%	7.9%	3.5%
Penn. BS - Del.	60.2%	-37.3%	51.3%	-92.8%	51.0%	-92.8%		
Prudential - Ga	18.8%	39.1%	26.4%	11.5%	20.8%	10.7%	31.5%	12.1%
Prudential - N.C.	21.2%	-10.9%	18.3%	10.2%	8.5%	29.4%	26.2%	-3.1%
Prudential - N.J.	32.3%	22.0%	21.3%	8.7%	23.1%	13.7%	20.2%	5.4%
Texas BS	-1.7%	6.6%	11.3%	1.6%	-5.2%	6.6%	25.3%	-1.7%
				ALLOWED CHARGES				
Iowa BS	32.0%	-6.4%	7.4%	-24.0%	2.6%	-26.4%	8.8%	-23.4%
Maryland BS	-6.7%	68.6%	7.9%	9.0%	-13.4%	11.7%	66.8%	5.0%
Penn. BS - Penn.	7.5%	11.7%	12.6%	0.1%	19.3%	-2.7%	6.4%	3.1%
Penn. BS - D.C.	8.9%	10.7%	13.7%	3.0%	30.3%	8.0%	4.0%	-0.7%
Penn. BS - Del.	34.2%	-34.0%	-0.4%	-91.7%	-0.4%	-91.7%		
Prudential - Ga	17.6%	28.3%	21.1%	8.6%	16.9%	7.7%	25.3%	9.5%
Prudential - N.C.	-2.8%	-17.1%	7.5%	1.6%	-0.6%	17.4%	13.8%	-9.3%
Prudential - N.J.	26.3%	10.7%	11.2%	0.0%	13.0%	4.8%	10.1%	-3.2%
Texas BS	-12.9%	3.4%	-10.9%	1.5%	-25.7%	9.3%	1.6%	-3.3%
				USERS OF SERVICES				
Iowa BS	50.9%	-15.0%	4.2%	-22.8%	4.9%	-32.2%	4.3%	-20.4%
Maryland BS	-1.7%	50.1%	3.1%	6.8%	-17.0%	6.5%	59.6%	6.9%
Penn. BS - Penn.	2.5%	9.1%	10.8%	-1.0%	19.5%	-4.7%	3.2%	6.2%
Penn. BS - D.C.	5.1%	5.2%	4.4%	3.1%	19.9%	8.2%	-4.2%	0.8%
Penn. BS - Del.	43.9%	-33.3%	13.6%	-92.7%	13.6%	-92.7%		
Prudential - Ga	8.8%	18.9%	15.0%	8.8%	9.4%	14.2%	20.1%	4.5%
Prudential - N.C.	4.0%	-13.6%	10.3%	0.5%	6.7%	15.1%	13.0%	-9.4%
Prudential - N.J.	17.6%	10.7%	6.8%	0.0%	11.1%	1.8%	4.1%	-1.2%
Texas BS	-6.3%	3.6%	6.2%	-3.9%	-7.8%	0.9%	17.6%	-6.9%

TABLE 3B

PERCENT CHANGE IN CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

PATHOLOGY

	Participation Status					
	Participants		Non-Participants		Non-Participants	
					Assigned	Unassigned
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83 85/84	84/83 85/84
CLAIMS						
Iowa BS	2.8%	-25.7%	2949.2%	-44.6%	2835.0% -83.8%	3002.3% -27.3%
Maryland BS	-26.9%	35.0%	-25.9%	-12.6%	23.5% -78.0%	-37.4% 17.4%
Penn. BS - Penn.	-4.1%	2.1%	-20.0%	-64.6%	-35.3% -4.4%	-11.5% -88.7%
Penn. BS - D.C.	-89.2%	-35.1%	33.7%	-19.2%	37.6% -20.4%	-20.2% 7.7%
Penn. BS - Del.			0.0%	0.0%		0.0% 0.0%
Prudential - Ga	184.9%	13.6%	-6.4%	-8.7%	-27.5% -21.7%	78.8% 12.4%
Prudential - N.C.	1.3%	-6.0%	30.5%	-23.4%	-2.0% -36.9%	95.5% -9.9%
Prudential - N.J.	17.1%	-19.8%	36.9%	15.3%	4.7% 141.4%	43.1% -2.4%
Texas BS	-70.2%	-16.1%	-74.5%	-11.6%	-83.3% -15.1%	-27.4% -7.2%
SERVICES						
Iowa BS	-76.9%	-37.5%	1701.2%	-55.1%	1857.5% -84.5%	1652.7% -44.8%
Maryland BS	-12.7%	30.0%	-26.1%	-12.8%	23.3% -75.5%	-36.9% 14.2%
Penn. BS - Penn.	-24.4%	4.1%	-18.1%	-65.1%	-30.9% -8.4%	-11.3% -88.9%
Penn. BS - D.C.	-89.3%	-56.4%	12.1%	-8.8%	14.1% -9.4%	-23.5% 6.9%
Penn. BS - Del.			0.0%	0.0%		0.0% 0.0%
Prudential - Ga	197.5%	0.5%	-57.5%	-50.5%	-65.2% -62.8%	94.2% -7.6%
Prudential - N.C.	-55.5%	-13.8%	-32.3%	-51.1%	-48.8% -68.2%	113.7% -15.0%
Prudential - N.J.	10.9%	-24.7%	34.3%	14.6%	5.7% 114.5%	41.3% -4.0%
Texas BS	-84.5%	-44.2%	-89.7%	-46.8%	-91.4% -58.1%	-77.1% -16.1%
SUBMITTED CHARGES						
Iowa BS	-48.9%	-18.5%	4683.9%	-42.2%	12096.1% -82.8%	3802.5% -27.2%
Maryland BS	15.5%	68.4%	-20.8%	13.3%	4.5% -49.2%	-28.2% 39.9%
Penn. BS - Penn.	0.7%	13.6%	77.8%	-25.8%	210.0% -2.6%	-14.7% -84.6%
Penn. BS - D.C.	-80.1%	-2.1%	6.9%	-6.1%	8.6% -6.4%	-24.0% 2.0%
Penn. BS - Del.			0.0%	0.0%		0.0% 0.0%
Prudential - Ga	424.6%	-9.5%	19.1%	3.9%	-15.6% -18.2%	193.4% 35.8%
Prudential - N.C.	74.6%	-0.6%	39.4%	-26.4%	-3.3% -41.0%	154.4% -11.5%
Prudential - N.J.	21.7%	-17.9%	42.4%	30.0%	43.5% 231.8%	42.2% -1.5%
Texas BS	-57.8%	-0.9%	-59.1%	-2.2%	-73.4% -15.2%	19.1% 13.8%
ALLOWED CHARGES						
Iowa BS	-58.3%	-5.6%	6094.4%	-27.7%	8639.6% -74.4%	5581.8% -13.4%
Maryland BS	0.0%	72.0%	-37.9%	53.0%	-27.6% -8.2%	-41.1% 76.5%
Penn. BS - Penn.	8.6%	17.0%	11.2%	-19.9%	74.2% 15.5%	-32.6% -83.6%
Penn. BS - D.C.	-82.4%	-3.3%	18.5%	-6.2%	21.7% -6.7%	-27.6% 6.8%
Penn. BS - Del.			-11.1%	-25.0%		-11.1% -25.0%
Prudential - Ga	392.7%	0.1%	1.7%	-9.0%	-25.4% -20.5%	133.1% 8.8%
Prudential - N.C.	25.5%	-5.2%	8.9%	-20.9%	-30.1% -35.7%	116.6% -7.7%
Prudential - N.J.	27.4%	-34.4%	47.9%	-3.2%	67.1% 92.0%	44.7% -21.0%
Texas BS	-60.1%	-7.7%	-70.7%	13.2%	-80.3% -2.5%	-13.5% 34.5%
USERS OF SERVICES						
Iowa BS	33.6%	-18.0%	2846.3%	-37.6%	3486.7% -82.9%	2707.2% -19.8%
Maryland BS	-23.8%	23.2%	-24.8%	-13.8%	23.8% -77.8%	-36.4% 16.0%
Penn. BS - Penn.	-5.5%	4.5%	8.0%	-47.8%	41.6% 0.5%	-13.1% -83.6%
Penn. BS - D.C.	-55.7%	-2.9%	15.9%	-10.6%	18.6% -7.9%	-2.1% 14.6%
Penn. BS - Del.			0.0%	0.0%		0.0% 0.0%
Prudential - Ga	185.1%	7.8%	17.0%	-1.8%	-8.3% -11.1%	102.5% 12.5%
Prudential - N.C.	51.1%	3.4%	41.7%	-18.9%	7.4% -29.3%	95.0% -9.9%
Prudential - N.J.	13.7%	-21.7%	37.1%	19.7%	9.9% 158.6%	42.4% 0.0%
Texas BS	-52.3%	-7.5%	-56.0%	-3.3%	-72.7% -1.2%	12.9% -5.6%

TABLE 3B

PERCENT CHANGE IN CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

RADIOLOGY

	Participation Status				Non-Participants			
	Participants		Non-Participants		Assigned		Unassigned	
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
				CLAIMS				
Iowa BS	154.7%	-16.3%	241.1%	-13.5%	105.3%	-27.9%	406.9%	-6.3%
Maryland BS	24.6%	32.3%	11.1%	0.4%	28.3%	0.9%	1.1%	0.1%
Penn. BS - Penn.	21.2%	4.6%	6.3%	-22.8%	-5.2%	-19.6%	38.6%	-29.1%
Penn. BS - D.C.	13.5%	16.3%	-65.4%	-7.8%	-75.7%	-17.3%	-23.9%	4.5%
Penn. BS - Del.	5.4%	15.3%	11.0%	-25.8%	-17.0%	-0.2%	715.1%	-91.2%
Prudential - Ga	6.5%	16.5%	-0.3%	0.3%	-9.0%	-12.5%	23.2%	25.7%
Prudential - N.C.	10.3%	-2.8%	-0.1%	-7.4%	-37.3%	-18.9%	100.3%	2.3%
Prudential - N.J.	18.7%	0.4%	19.2%	1.3%	16.1%	4.7%	21.8%	-1.4%
Texas BS	9.6%	-2.2%	6.9%	-6.2%	-1.7%	-14.1%	15.7%	0.6%
				SERVICES				
Iowa BS	125.9%	-13.5%	212.4%	-23.7%	83.3%	-34.2%	390.5%	-17.2%
Maryland BS	2.0%	27.2%	23.2%	6.0%	56.6%	10.1%	-1.8%	1.2%
Penn. BS - Penn.	20.3%	3.5%	4.4%	-20.3%	-5.1%	-19.0%	34.5%	-23.2%
Penn. BS - D.C.	4.6%	15.1%	-75.1%	-14.4%	-82.7%	-26.9%	-25.3%	4.4%
Penn. BS - Del.	5.7%	11.7%	-3.2%	-21.0%	-13.1%	-14.4%	637.5%	-71.2%
Prudential - Ga	9.0%	3.3%	1.3%	-1.7%	-6.8%	-12.3%	23.4%	20.1%
Prudential - N.C.	5.1%	-4.6%	2.5%	-12.2%	-36.6%	-21.8%	121.0%	-3.9%
Prudential - N.J.	16.4%	-1.9%	21.3%	1.3%	17.9%	6.7%	24.3%	-3.3%
Texas BS	3.9%	-7.1%	0.4%	-9.9%	-7.6%	-17.8%	9.4%	-2.5%
				SUBMITTED CHARGES				
Iowa BS	135.6%	-8.9%	217.1%	-21.2%	183.3%	-25.9%	241.1%	-18.4%
Maryland BS	26.0%	32.6%	10.1%	30.1%	20.6%	37.5%	-1.3%	20.3%
Penn. BS - Penn.	27.3%	12.2%	15.0%	-24.1%	6.2%	-23.2%	51.6%	-26.8%
Penn. BS - D.C.	19.0%	11.0%	-79.3%	-0.5%	-88.3%	-25.1%	-14.1%	24.1%
Penn. BS - Del.	13.0%	28.2%	8.2%	-19.9%	-7.0%	-10.0%	1583.2%	-76.6%
Prudential - Ga	19.5%	9.5%	12.0%	2.3%	3.6%	-7.7%	31.4%	20.6%
Prudential - N.C.	8.0%	1.5%	13.4%	-4.5%	-29.6%	-15.6%	119.3%	4.2%
Prudential - N.J.	23.6%	5.0%	31.9%	3.7%	29.2%	9.6%	34.0%	-0.8%
Texas BS	12.6%	-0.4%	6.2%	-6.0%	-1.1%	-13.9%	13.5%	0.8%
				ALLOWED CHARGES				
Iowa BS	112.1%	-0.4%	202.0%	-14.7%	199.7%	-23.3%	203.5%	-8.8%
Maryland BS	25.2%	27.6%	19.8%	18.7%	39.7%	23.8%	-0.4%	11.4%
Penn. BS - Penn.	20.8%	4.2%	8.2%	-22.9%	-1.3%	-21.0%	43.0%	-27.4%
Penn. BS - D.C.	15.2%	11.0%	-77.4%	0.4%	-87.1%	-20.6%	-18.9%	20.5%
Penn. BS - Del.	5.8%	27.7%	7.4%	-18.1%	-14.5%	-0.5%	2035.6%	-83.2%
Prudential - Ga	8.2%	8.1%	1.8%	0.2%	-5.2%	-10.5%	18.8%	21.1%
Prudential - N.C.	-2.3%	-1.4%	-1.2%	-8.3%	-39.9%	-19.5%	102.5%	0.7%
Prudential - N.J.	17.5%	-3.6%	16.9%	-4.1%	12.7%	-1.4%	20.3%	-6.1%
Texas BS	6.7%	-3.2%	0.8%	-5.7%	-8.4%	-13.8%	9.9%	0.9%
				USERS OF SERVICES				
Iowa BS	145.6%	-14.9%	217.5%	-10.1%	112.6%	-27.3%	343.7%	-4.5%
Maryland BS	11.6%	15.9%	9.9%	-0.9%	26.8%	0.6%	0.9%	-2.4%
Penn. BS - Penn.	18.3%	10.8%	5.6%	-15.4%	-7.5%	-2.4%	33.1%	-18.2%
Penn. BS - D.C.	19.1%	13.0%	-49.0%	0.7%	-61.9%	2.0%	-23.3%	8.7%
Penn. BS - Del.	2.4%	18.6%	49.1%	-53.0%	-29.5%	5.1%	722.1%	-92.3%
Prudential - Ga	7.7%	11.8%	1.6%	-0.9%	-7.7%	-13.6%	24.5%	22.2%
Prudential - N.C.	8.3%	-3.1%	-0.5%	-3.8%	-38.0%	-16.0%	94.4%	6.0%
Prudential - N.J.	16.1%	0.0%	17.3%	1.6%	15.4%	1.9%	18.8%	1.4%
Texas BS	9.5%	-2.0%	6.0%	-8.3%	-3.1%	-16.9%	16.2%	0.1%

TABLE 3B

PERCENT CHANGE IN CLAIMS, SERVICES, SUBMITTED CHARGES AND ALLOWED CHARGES BY PARTICIPATION/ASSIGNMENT STATUS

OPHTHALMOLOGY

	Participation Status				Non-Participants	
	Participants		Non-Participants		Assigned	Unassigned
Jan-Mar Quarter	84/83	85/84	84/83	85/84	84/83	85/84	84/83	85/84
				CLAIMS				
Iowa BS	13.3%	4.5%	9.8%	-12.4%	12.9%	-6.5%	9.5%	-13.0%
Maryland BS	1.0%	64.3%	10.3%	3.9%	21.7%	8.1%	6.5%	2.2%
Penn. BS - Penn.	9.6%	27.0%	4.0%	11.2%	9.6%	21.1%	2.8%	9.0%
Penn. BS - D.C.	3.8%	23.2%	-6.7%	9.8%	-2.9%	-17.7%	-7.7%	17.4%
Penn. BS - Del.	83.3%	57.6%	-0.2%	8.4%	3.5%	9.0%	-0.8%	8.3%
Prudential - Ga	22.1%	64.9%	21.5%	3.4%	15.4%	20.4%	24.1%	-3.2%
Prudential - N.C.	13.9%	41.7%	17.1%	-2.5%	28.3%	18.6%	15.0%	-7.0%
Prudential - N.J.	24.8%	16.1%	18.8%	-3.1%	22.4%	5.2%	17.7%	2.5%
Texas BS	15.3%	33.8%	9.1%	-1.4%	16.0%	9.6%	6.0%	-6.7%
				SERVICES				
Iowa BS	7.6%	22.5%	13.5%	-12.7%	14.4%	-11.8%	13.4%	-12.8%
Maryland BS	-4.9%	60.5%	7.6%	0.5%	17.7%	7.4%	4.2%	-2.1%
Penn. BS - Penn.	9.0%	26.2%	2.8%	11.4%	7.0%	18.8%	1.9%	9.6%
Penn. BS - D.C.	3.0%	22.8%	-6.8%	9.2%	-2.4%	-18.8%	-8.0%	17.1%
Penn. BS - Del.	83.3%	57.6%	-0.2%	8.4%	1.4%	9.3%	-0.6%	8.3%
Prudential - Ga	27.8%	55.9%	29.3%	1.8%	17.1%	19.5%	33.9%	-4.0%
Prudential - N.C.	17.6%	37.6%	26.7%	-4.4%	32.3%	14.8%	25.7%	-8.0%
Prudential - N.J.	35.3%	19.3%	27.3%	4.0%	34.0%	8.3%	25.4%	2.6%
Texas BS	15.8%	34.0%	7.1%	2.3%	15.2%	14.9%	3.2%	-4.3%
				SUBMITTED CHARGES				
Iowa BS	-4.2%	38.4%	28.4%	-17.4%	40.0%	6.5%	27.3%	-19.9%
Maryland BS	33.8%	60.0%	35.4%	8.7%	35.3%	26.0%	35.4%	-10.4%
Penn. BS - Penn.	23.4%	21.0%	15.4%	19.8%	11.6%	-34.1%	18.3%	59.3%
Penn. BS - D.C.	42.1%	30.6%	7.6%	15.1%	20.8%	-33.4%	2.7%	36.5%
Penn. BS - Del.	-46.8%	12.4%	27.0%	23.4%	7.0%	-37.9%	39.8%	53.5%
Prudential - Ga	44.8%	36.2%	31.3%	11.3%	24.8%	46.3%	35.3%	-8.4%
Prudential - N.C.	19.8%	45.4%	31.5%	1.8%	54.7%	38.2%	24.5%	-11.8%
Prudential - N.J.	53.2%	13.7%	39.4%	5.4%	39.1%	9.2%	39.7%	2.5%
Texas BS	32.9%	38.2%	17.6%	11.6%	35.1%	29.4%	4.8%	-5.1%
				ALLOWED CHARGES				
Iowa BS	-1.5%	30.2%	26.7%	-16.2%	36.6%	1.7%	25.8%	-18.0%
Maryland BS	32.0%	53.1%	35.3%	4.8%	39.1%	18.9%	31.5%	-10.5%
Penn. BS - Penn.	20.3%	13.3%	14.6%	15.8%	9.7%	-35.7%	18.1%	50.3%
Penn. BS - D.C.	41.6%	24.1%	7.4%	11.2%	21.1%	-35.0%	2.5%	31.0%
Penn. BS - Del.	-42.8%	25.5%	26.5%	17.0%	11.0%	-40.5%	35.8%	45.0%
Prudential - Ga	42.1%	26.9%	30.5%	8.1%	24.5%	44.1%	34.2%	-12.2%
Prudential - N.C.	14.8%	30.3%	31.4%	-1.1%	57.9%	33.2%	23.4%	-14.2%
Prudential - N.J.	46.8%	5.0%	30.9%	4.0%	30.4%	7.2%	31.4%	1.6%
Texas BS	32.5%	31.9%	20.0%	7.7%	38.0%	23.8%	7.0%	-7.3%
				USERS OF SERVICES				
Iowa BS	12.9%	8.4%	11.8%	-11.3%	5.8%	-2.4%	12.4%	-11.7%
Maryland BS	1.8%	47.1%	9.3%	2.7%	21.1%	3.3%	5.9%	1.9%
Penn. BS - Penn.	9.1%	34.2%	5.6%	9.3%	14.4%	35.7%	4.9%	9.0%
Penn. BS - D.C.	8.3%	17.3%	-3.8%	6.0%	-7.1%	16.1%	-3.2%	9.9%
Penn. BS - Del.	41.2%	91.7%	2.0%	6.3%	11.1%	16.7%	1.2%	6.0%
Prudential - Ga	16.1%	63.7%	18.3%	4.2%	12.3%	17.5%	20.7%	-0.6%
Prudential - N.C.	11.6%	46.1%	15.9%	-2.1%	24.0%	16.8%	14.4%	-5.9%
Prudential - N.J.	23.7%	11.8%	18.0%	3.4%	21.5%	7.8%	17.0%	2.1%
Texas BS	13.2%	27.9%	8.0%	-3.5%	13.3%	8.1%	5.7%	-7.7%

TABLE 3C

PERCENT CHANGE IN SERVICES PER USER OF SERVICES
BY TYPE OF SERVICE, BY PARTICIPATION STATUS

Jan-Mar Quarter	PARTICIPANTS 84/83	'85/84	NON-PARTICIPANTS 84/83	85/84
		MEDICAL CARE		
Iowa BS	-3.4%	-19.8%	-8.1%	-2.9%
Maryland BS	-4.8%	-7.6%	-15.5%	-5.6%
Penn. BS - Penn.	-11.8%	-16.0%	-10.3%	-7.5%
Penn. BS - D.C.	-8.3%	-6.5%	-9.5%	-2.2%
Penn. BS - Del.	-4.6%	-17.9%	-8.1%	-10.7%
Prudential - Ga	5.1%	-8.7%	12.1%	-6.3%
Prudential - N.C.	2.6%	-13.4%	8.5%	-11.7%
Prudential - N.J.	7.2%	-7.7%	10.5%	-6.3%
Texas BS	-1.7%	-17.8%	-3.7%	-10.6%
		SURGERY		
Iowa BS	10.8%	-2.5%	6.9%	-6.8%
Maryland BS	-6.5%	5.4%	1.6%	-2.1%
Penn. BS - Penn.	-0.1%	1.8%	-0.5%	0.1%
Penn. BS - D.C.	-1.7%	9.9%	1.5%	5.1%
Penn. BS - Del.	-3.6%	2.8%	8.0%	5.0%
Prudential - Ga	4.8%	4.8%	4.2%	2.2%
Prudential - N.C.	2.7%	3.2%	3.6%	-0.7%
Prudential - N.J.	2.2%	0.4%	1.7%	-0.3%
Texas BS	-5.2%	0.1%	-1.3%	2.9%
		RADIOLOGY		
Iowa BS	-1.2%	-1.5%	-13.1%	-3.5%
Maryland BS	-4.3%	-2.1%	1.1%	1.2%
Penn. BS - Penn.	2.7%	-4.8%	-2.6%	-9.2%
Penn. BS - D.C.	-5.1%	2.1%	-29.9%	-4.3%
Penn. BS - Del.	5.7%	-4.3%	-15.5%	17.6%
Prudential - Ga	-0.1%	-6.6%	-3.0%	-2.4%
Prudential - N.C.	-2.5%	-2.5%	3.4%	-6.0%
Prudential - N.J.	1.4%	-3.1%	4.5%	-0.5%
Texas BS	-9.6%	-8.1%	-7.5%	-5.2%

TABLE 3C

PERCENT CHANGE IN SERVICES PER USER OF SERVICES
BY TYPE OF SERVICE, BY PARTICIPATION STATUS

Jan-Mar Quarter	PARTICIPANTS 84/83	PARTICIPANTS 85/84	NON-PARTICIPANTS 84/83	NON-PARTICIPANTS 85/84
		LABORATORY		
Iowa BS	-27.8%	-11.0%	0.1%	-15.2%
Maryland BS	-3.6%	9.6%	-2.0%	1.7%
Penn. BS - Penn.	-3.8%	-18.1%	-4.7%	-8.3%
Penn. BS - D.C.	-49.6%	-17.0%	-3.3%	-10.4%
Penn. BS - Del.	5.1%	-15.6%	-7.0%	1.0%
Prudential - Ga	2.5%	-3.9%	-2.2%	-7.1%
Prudential - N.C.	-15.3%	-1.0%	5.2%	-5.2%
Prudential - N.J.	3.5%	-14.3%	8.6%	-12.7%
Texas BS	-64.8%	-24.5%	-56.7%	-8.4%
		OTHER		
Iowa BS	-11.1%	-6.4%	2.3%	-10.1%
Maryland BS	5.3%	44.4%	-3.4%	-10.7%
Penn. BS - Penn.	-2.5%	10.9%	-4.6%	6.8%
Penn. BS - D.C.	-7.1%	11.5%	5.1%	6.2%
Penn. BS - Del.	-4.4%	-16.2%	-23.0%	-36.0%
Prudential - Ga	20.7%	-4.1%	12.4%	-2.0%
Prudential - N.C.	1.5%	4.5%	1.9%	5.4%
Prudential - N.J.	-39.6%	0.5%	11.5%	7.5%
Texas BS	-1.4%	-3.4%	-4.0%	8.1%

TABLE 3D

PERCENT CHANGE IN ALLOWED CHARGES PER USER OF SERVICES
BY TYPE OF SERVICE, BY PARTICIPATION STATUS

Jan-Mar Quarter	PARTICIPANTS 84/83	PARTICIPANTS 85/84	NON-PARTICIPANTS 84/83	NON-PARTICIPANTS 85/84
		MEDICAL CARE		
Iowa BS	7.4%	-11.8%	-0.9%	12.4%
Maryland BS	4.9%	-7.7%	6.5%	-4.6%
Penn. BS - Penn.	-6.0%	-16.3%	-4.2%	-7.3%
Penn. BS - D.C.	-3.2%	-6.3%	-5.7%	-2.3%
Penn. BS - Del.	1.4%	-18.5%	-2.8%	-13.1%
Prudential - Ga	3.7%	-8.2%	10.2%	-5.6%
Prudential - N.C.	6.5%	-13.7%	7.9%	-10.9%
Prudential - N.J.	6.6%	-9.2%	10.7%	-5.5%
Texas BS	0.5%	-16.1%	1.7%	-8.9%
		SURGERY		
Iowa BS	9.8%	-2.9%	8.1%	-4.0%
Maryland BS	3.6%	5.0%	15.4%	1.9%
Penn. BS - Penn.	3.5%	-0.7%	7.0%	4.8%
Penn. BS - D.C.	9.2%	-3.7%	-1.9%	-0.9%
Penn. BS - Del.	4.1%	-1.9%	19.7%	0.5%
Prudential - Ga	4.0%	7.0%	6.7%	6.2%
Prudential - N.C.	7.7%	2.8%	7.4%	1.2%
Prudential - N.J.	3.5%	-7.4%	7.2%	-3.9%
Texas BS	8.8%	8.7%	9.0%	6.9%
		RADIOLOGY		
Iowa BS	-1.0%	-8.9%	-3.5%	0.7%
Maryland BS	-0.7%	5.1%	7.8%	6.7%
Penn. BS - Penn.	2.8%	-0.1%	7.2%	-3.8%
Penn. BS - D.C.	-1.4%	4.0%	-30.8%	5.6%
Penn. BS - Del.	2.9%	10.5%	-4.0%	35.9%
Prudential - Ga	0.4%	-3.6%	-1.9%	-2.3%
Prudential - N.C.	-8.0%	-1.0%	-0.1%	-4.9%
Prudential - N.J.	0.9%	-5.0%	2.3%	-5.6%
Texas BS	2.0%	-0.9%	-2.0%	-0.8%

TABLE 3D

PERCENT CHANGE IN ALLOWED CHARGES PER USER OF SERVICES
BY TYPE OF SERVICE, BY PARTICIPATION STATUS

Jan-Mar Quarter	PARTICIPANTS 84/83	PARTICIPANTS 85/84	NON-PARTICIPANTS 84/83	NON-PARTICIPANTS 85/84
		LABORATORY		
Iowa BS	-44.5%	-35.1%	4.6%	-39.4%
Maryland BS	-12.6%	-0.3%	9.2%	-2.6%
Penn. BS - Penn.	-16.2%	-40.7%	-9.8%	-31.9%
Penn. BS - D.C.	-39.3%	-39.3%	-1.4%	-33.6%
Penn. BS - Del.	2.3%	-39.9%	-2.5%	-26.3%
Prudential - Ga	33.8%	-17.1%	-1.4%	-13.6%
Prudential - N.C.	4.7%	-11.8%	6.3%	-14.5%
Prudential - N.J.	10.4%	-49.9%	11.1%	-44.2%
Texas BS	-22.5%	-10.0%	-18.1%	-7.7%
		OTHER		
Iowa BS	17.8%	4.1%	41.4%	3.3%
Maryland BS	8.4%	11.9%	3.9%	6.7%
Penn. BS - Penn.	6.2%	2.0%	1.8%	1.2%
Penn. BS - D.C.	-0.3%	5.0%	8.3%	4.9%
Penn. BS - Del.	6.9%	-13.6%	-11.9%	-19.4%
Prudential - Ga	-10.6%	-20.6%	-3.3%	-8.7%
Prudential - N.C.	-13.2%	-25.4%	-26.7%	-24.6%
Prudential - N.J.	-51.7%	-21.6%	-48.9%	-19.2%
Texas BS	-4.6%	1.8%	-8.4%	6.5%

TABLE 3E

REDUCTION RATE AND PERCENT CHANGE IN REDUCTION RATE BY PARTICIPATION STATUS

ALL MD/DO SPECIALTIES COMBINED

Jan-Mar Quarter	Participating Reduction Rate 83	84	85	Percent Change 84/83	85/84	Non-Participating Reduction Rate 83	84	85	Percent Change 84/83	85/84
Iowa BS	32.0%	30.6%	31.1%	-4.5%	1.7%	32.4%	31.7%	30.7%	-2.1%	-3.3%
Maryland BS	24.8%	25.1%	28.3%	1.3%	12.8%	22.2%	22.7%	25.8%	2.3%	13.8%
Penn. BS - Penn.	25.8%	27.2%	31.9%	5.4%	17.1%	23.1%	24.7%	27.2%	7.2%	10.0%
Penn. BS - D.C.	27.3%	28.7%	30.2%	5.3%	5.3%	25.4%	25.7%	27.8%	1.3%	7.9%
Penn. BS - Del.	28.7%	31.4%	31.9%	9.4%	1.7%	26.5%	29.9%	30.0%	12.6%	0.5%
Prudential - Ga	25.4%	28.8%	33.0%	13.3%	14.9%	28.2%	31.2%	33.3%	10.6%	6.7%
Prudential - N.C.	26.1%	28.4%	32.7%	8.9%	15.0%	29.7%	32.1%	34.3%	8.0%	6.7%
Prudential - N.J.	29.5%	32.5%	38.5%	10.0%	18.6%	31.1%	34.4%	38.0%	10.6%	10.4%
Texas BS	26.2%	27.1%	29.8%	3.6%	10.1%	27.4%	28.4%	29.9%	3.5%	5.2%

GENERAL PRACTICE

Iowa BS	31.2%	30.1%	33.5%	-3.5%	11.1%	32.4%	32.9%	32.8%	1.5%	-0.2%
Maryland BS	20.4%	21.2%	27.2%	3.8%	28.5%	18.9%	18.3%	23.0%	-3.5%	25.9%
Penn. BS - Penn.	22.9%	22.2%	26.3%	-2.9%	18.7%	19.2%	19.6%	22.5%	2.0%	14.6%
Penn. BS - D.C.	25.6%	29.0%	29.8%	13.5%	2.6%	20.5%	29.4%	29.6%	43.6%	0.6%
Penn. BS - Del.	28.2%	24.7%	30.1%	-12.6%	22.0%	16.1%	16.6%	19.5%	3.1%	17.5%
Prudential - Ga	28.6%	30.1%	35.5%	5.5%	17.8%	29.4%	32.2%	34.9%	9.8%	8.4%
Prudential - N.C.	32.7%	33.4%	36.4%	2.2%	8.9%	33.0%	34.0%	35.8%	3.2%	5.2%
Prudential - N.J.	31.8%	33.1%	40.7%	4.3%	22.8%	30.7%	32.7%	36.0%	6.6%	9.8%
Texas BS	30.9%	30.0%	33.7%	-3.1%	12.4%	29.7%	29.8%	32.6%	0.5%	9.2%

FAMILY PRACTICE

Iowa BS	32.0%	29.6%	32.4%	-7.6%	9.3%	33.2%	32.2%	33.4%	-3.0%	3.6%
Maryland BS	22.9%	23.7%	26.3%	3.3%	10.9%	21.3%	20.0%	25.7%	-6.0%	28.2%
Penn. BS - Penn.	21.8%	20.9%	26.0%	-4.4%	24.3%	18.1%	18.1%	20.6%	-0.4%	13.9%
Penn. BS - D.C.	21.7%	22.1%	29.0%	2.1%	30.9%	20.6%	21.4%	23.9%	3.6%	11.7%
Penn. BS - Del.	15.3%	16.5%	14.3%	7.9%	-13.2%	16.2%	11.5%	14.6%	-28.9%	27.2%
Prudential - Ga										
Prudential - N.C.										
Prudential - N.J.	33.5%	35.4%	42.4%	5.9%	19.7%	31.2%	34.3%	37.3%	10.0%	8.8%
Texas BS										

INTERNAL MEDICINE

Iowa BS	30.3%	25.6%	31.5%	-15.6%	23.2%	33.8%	32.7%	32.1%	-3.2%	-1.9%
Maryland BS	22.1%	22.1%	25.9%	-0.1%	17.2%	18.4%	18.4%	21.8%	0.1%	18.5%
Penn. BS - Penn.	21.1%	21.8%	27.5%	3.2%	26.2%	18.6%	20.1%	23.1%	8.2%	14.5%
Penn. BS - D.C.	26.7%	25.5%	27.8%	-4.4%	9.0%	22.0%	22.0%	25.2%	-0.2%	14.5%
Penn. BS - Del.	27.0%	23.9%	30.7%	-11.2%	28.2%	18.5%	20.0%	22.6%	8.5%	12.9%
Prudential - Ga	26.6%	29.4%	30.4%	10.6%	15.2%	28.5%	31.8%	33.1%	11.8%	3.9%
Prudential - N.C.	29.6%	30.8%	34.0%	4.2%	10.4%	31.7%	33.6%	35.4%	6.0%	5.4%
Prudential - N.J.	29.4%	31.7%	37.2%	7.7%	17.6%	30.7%	33.2%	37.0%	8.4%	11.3%
Texas BS	25.7%	26.5%	30.6%	3.2%	15.6%	27.1%	26.1%	28.7%	-3.5%	9.8%

TABLE 3E

REDUCTION RATE AND PERCENT CHANGE IN REDUCTION RATE BY PARTICIPATION, STATUS

CARDIOLOGY

Jan-Mar Quarter	Participating Reduction Rate 83	84	85	Percent Change 84/83	85/84	Non-Participating Reduction Rate 83	84	85	Percent Change 84/83	85/84
Iowa BS	29.9%	24.2%	21.3%	-19.3%	-11.9%	31.1%	24.1%	22.6%	-22.5%	-5.9%
Maryland BS	22.4%	21.9%	24.1%	-2.0%	10.0%	22.4%	19.7%	22.2%	-12.2%	13.0%
Penn. BS - Penn.	22.9%	26.7%	31.4%	16.9%	17.6%	22.0%	23.5%	25.4%	6.7%	8.2%
Penn. BS - D.C.	27.4%	30.2%	33.2%	10.0%	10.0%	21.8%	21.7%	23.7%	-0.2%	9.3%
Penn. BS - Del.	29.5%	27.7%	23.6%	-6.3%	-14.7%	30.6%	30.4%	29.7%	-0.9%	-2.0%
Prudential - Ga										
Prudential - N.C.	28.7%	31.0%	37.8%	7.9%	21.9%	28.9%	30.7%	33.9%	6.3%	10.6%
Prudential - N.J.	27.3%	38.0%	42.3%	39.5%	11.3%	28.5%	32.6%	35.7%	14.5%	9.6%
Texas BS	24.3%	23.9%	26.1%	-2.0%	9.3%	25.0%	23.4%	25.8%	-6.5%	10.3%

GENERAL SURGERY

Iowa BS	32.1%	32.5%	31.9%	1.3%	-1.8%	31.2%	29.9%	28.2%	-4.3%	-5.5%
Maryland BS	30.7%	30.8%	34.7%	0.3%	12.7%	33.3%	33.9%	36.5%	1.8%	7.9%
Penn. BS - Penn.	30.8%	31.6%	34.7%	2.8%	9.8%	22.7%	23.3%	25.8%	1.5%	5.8%
Penn. BS - D.C.	35.9%	34.9%	34.0%	-2.9%	-2.4%	31.8%	31.0%	31.3%	-2.5%	0.9%
Penn. BS - Del.	30.6%	32.0%	32.6%	4.5%	1.9%	25.9%	32.4%	31.1%	25.1%	-4.1%
Prudential - Ga	24.8%	26.0%	31.7%	5.0%	21.8%	26.7%	27.9%	30.6%	4.4%	9.5%
Prudential - N.C.	22.9%	23.0%	26.5%	0.6%	15.3%	24.5%	25.7%	28.3%	5.0%	10.3%
Prudential - N.J.	29.2%	30.4%	37.0%	4.3%	21.7%	33.1%	35.3%	38.7%	6.7%	9.4%
Texas BS	33.2%	32.7%	35.4%	-1.7%	8.4%	32.2%	31.4%	33.3%	-2.5%	6.1%

OPHTHALMOLOGY

Iowa BS	22.7%	20.5%	25.2%	-9.6%	22.9%	25.6%	26.6%	25.5%	3.7%	-4.0%
Maryland BS	20.8%	21.9%	25.2%	5.0%	15.3%	24.4%	24.4%	27.1%	0.1%	11.2%
Penn. BS - Penn.	27.5%	29.3%	33.8%	6.6%	15.4%	22.7%	23.3%	25.8%	2.3%	11.0%
Penn. BS - D.C.	17.9%	18.2%	22.2%	1.8%	22.3%	17.5%	17.6%	20.4%	0.8%	15.6%
Penn. BS - Del.	25.0%	19.4%	10.0%	-22.5%	-48.2%	25.4%	25.7%	29.5%	1.1%	15.0%
Prudential - Ga	20.1%	21.7%	27.0%	7.5%	24.7%	20.7%	21.2%	23.5%	2.2%	10.6%
Prudential - N.C.	19.3%	22.6%	30.7%	17.3%	35.5%	25.4%	25.4%	27.6%	0.2%	8.4%
Prudential - N.J.	27.2%	30.2%	35.6%	11.2%	17.7%	24.4%	29.0%	29.9%	18.8%	3.2%
Texas BS	19.1%	19.3%	23.0%	1.2%	19.2%	20.2%	18.5%	21.4%	-8.0%	15.5%

ORTHOPEDIC SURGERY

Iowa BS	35.9%	33.8%	32.9%	-5.8%	-2.7%	33.3%	33.8%	30.6%	1.6%	-9.4%
Maryland BS	27.7%	29.6%	33.1%	6.8%	12.0%	30.3%	31.5%	35.0%	4.3%	10.9%
Penn. BS - Penn.	26.3%	27.1%	32.5%	3.1%	20.1%	26.9%	28.1%	30.8%	4.6%	9.7%
Penn. BS - D.C.	28.4%	30.3%	33.0%	6.8%	8.7%	28.2%	28.8%	31.0%	2.2%	7.6%
Penn. BS - Del.	30.7%	31.5%	32.7%	2.6%	3.8%	29.0%	28.0%	30.8%	-3.5%	10.0%
Prudential - Ga	25.3%	27.9%	34.7%	10.1%	24.3%	26.9%	30.0%	33.0%	11.2%	10.2%
Prudential - N.C.	26.5%	26.8%	32.6%	1.2%	21.3%	24.6%	25.1%	27.4%	1.9%	9.5%
Prudential - N.J.	33.7%	33.6%	37.6%	-0.3%	11.9%	35.2%	38.2%	41.9%	8.3%	9.7%
Texas BS	29.1%	29.8%	32.2%	2.4%	8.3%	30.8%	29.2%	30.5%	-5.1%	4.6%

TABLE 3E

REDUCTION RATE AND PERCENT CHANGE IN REDUCTION RATE BY PARTICIPATION STATUS

ANESTHESIOLOGY

	Participating					Non-Participating				
	Reduction Rate			Percent Change		Reduction Rate			Percent Change	
Jan-Mar Quarter	83	84	85	84/83	85/84	83	84	85	84/83	85/84
Iowa BS	44.2%	42.0%	41.2%	-5.0%	-1.8%	40.4%	39.6%	38.7%	-1.8%	-2.3%
Maryland BS	31.2%	34.5%	39.2%	10.7%	13.5%	26.3%	33.3%	34.5%	26.7%	3.6%
Penn. BS - Penn.	41.8%	46.4%	48.7%	11.1%	4.9%	39.1%	44.9%	44.6%	14.9%	-0.7%
Penn. BS - D.C.	42.6%	47.8%	48.7%	12.2%	2.0%	39.6%	42.8%	45.2%	7.8%	5.7%
Penn. BS - Del.	42.8%	52.1%	51.1%	21.7%	-1.8%	29.9%	53.8%	47.0%	80.1%	-12.8%
Prudential - Ga	34.4%	35.1%	40.2%	2.1%	14.4%	38.9%	41.4%	42.9%	6.5%	3.6%
Prudential - N.C.	42.4%	51.2%	54.6%	20.6%	6.7%	45.5%	50.5%	54.4%	11.0%	7.7%
Prudential - N.J.	33.2%	36.3%	42.2%	9.2%	16.4%	34.0%	39.5%	44.3%	16.1%	12.2%
Texas BS	33.0%	40.6%	42.4%	23.2%	4.4%	30.0%	44.0%	44.0%	46.7%	0.1%

PATHOLOGY

Iowa BS	15.9%	31.5%	20.7%	97.9%	-34.4%	46.9%	31.3%	14.1%	-33.3%	-55.0%
Maryland BS	23.6%	33.8%	32.3%	43.4%	-4.3%	30.7%	45.7%	26.7%	48.9%	-41.6%
Penn. BS - Penn.	48.5%	44.4%	42.7%	-8.3%	-3.8%	22.3%	51.4%	47.6%	130.5%	-7.4%
Penn. BS - D.C.	24.4%	33.2%	34.0%	36.1%	2.4%	36.2%	29.3%	29.3%	-19.1%	0.2%
Penn. BS - Del.						0.0%	11.1%	33.3%		200.0%
Prudential - Ga	37.4%	41.2%	35.0%	10.2%	-15.0%	36.9%	46.1%	52.8%	24.9%	14.5%
Prudential - N.C.	22.9%	44.6%	47.2%	94.7%	5.8%	32.6%	47.3%	43.4%	45.4%	-8.3%
Prudential - N.J.	29.2%	25.8%	40.8%	-11.4%	57.8%	28.1%	25.3%	44.4%	-9.9%	75.4%
Texas BS	22.0%	26.3%	31.3%	19.6%	19.1%	24.6%	45.9%	37.4%	86.8%	-18.6%

RADIOLOGY

Iowa BS	28.9%	36.0%	30.0%	24.6%	-16.7%	26.2%	29.7%	23.9%	13.5%	-19.6%
Maryland BS	11.4%	12.0%	15.3%	5.1%	27.8%	22.8%	16.0%	23.4%	-29.8%	46.2%
Penn. BS - Penn.	21.2%	25.2%	30.6%	19.0%	21.3%	21.4%	26.0%	24.8%	21.7%	-4.7%
Penn. BS - D.C.	23.5%	25.9%	25.9%	10.4%	-0.1%	35.3%	29.2%	28.6%	-17.3%	-2.0%
Penn. BS - Del.	17.4%	22.7%	23.0%	30.4%	1.4%	41.7%	42.1%	40.8%	1.0%	-3.1%
Prudential - Ga	19.3%	27.0%	27.9%	39.6%	3.4%	21.9%	29.0%	30.4%	32.4%	4.9%
Prudential - N.C.	22.6%	30.0%	32.0%	32.6%	6.6%	24.3%	34.0%	36.6%	40.0%	7.5%
Prudential - N.J.	27.3%	30.9%	36.6%	13.2%	18.4%	29.4%	37.4%	42.1%	27.4%	12.5%
Texas BS	24.4%	28.4%	30.4%	16.2%	7.0%	24.6%	28.4%	28.1%	15.5%	-1.0%

TABLE 3F

ALLOWED CHARGES PER SERVICE AND PERCENT CHANGE IN ALLOWED CHARGES PER SERVICE BY PARTICIPATION STATUS

ALL MD/DO SPECIALTIES COMBINED

Jan-Mar Quarter	Participating: Allowed Charges/Service			Participating: Percent Change		Non-Participating: Allowed Charges/Service			Non-Participating: Percent Change	
	83	84	85	84/83	85/84	83	84	85	84/83	85/84
Iowa BS	$28	$32	$33	13.4%	4.3%	$20	$22	$25	9.6%	14.9%
Maryland BS	$34	$35	$32	4.4%	-9.5%	$19	$23	$24	17.8%	7.0%
Penn. BS - Penn.	$38	$40	$40	5.5%	0.2%	$29	$31	$32	7.7%	4.1%
Penn. BS - D.C.	$38	$47	$48	23.8%	0.7%	$36	$37	$38	1.8%	2.5%
Penn. BS - Del.	$37	$39	$40	6.3%	1.9%	$30	$34	$36	14.2%	4.0%
Prudential - Ga	$31	$31	$32	1.3%	3.3%	$29	$29	$30	0.3%	3.8%
Prudential - N.C.	$31	$33	$33	5.4%	-0.1%	$26	$26	$26	-0.5%	2.1%
Prudential - N.J.	$42	$41	$40	-1.5%	-3.1%	$34	$34	$33	-0.2%	-0.9%
Texas BS	$23	$34	$39	46.8%	14.1%	$26	$33	$37	28.3%	10.3%

GENERAL PRACTICE

Iowa BS	$12	$13	$14	4.4%	7.5%	$12	$13	$13	4.4%	4.1%
Maryland BS	$17	$18	$17	4.5%	-2.4%	$15	$16	$15	5.3%	-2.5%
Penn. BS - Penn.	$16	$17	$18	5.9%	0.8%	$15	$16	$16	7.3%	0.3%
Penn. BS - D.C.	$27	$28	$28	5.5%	-0.7%	$21	$20	$22	-4.3%	9.3%
Penn. BS - Del.	$18	$19	$19	7.3%	-2.2%	$15	$16	$16	7.7%	-2.6%
Prudential - Ga	$14	$14	$14	4.7%	-3.5%	$14	$13	$13	-3.2%	-6.5%
Prudential - N.C.	$13	$13	$12	0.4%	-1.7%	$12	$11	$11	-3.7%	-2.5%
Prudential - N.J.	$15	$15	$14	2.0%	-6.3%	$15	$15	$15	1.0%	-1.9%
Texas BS	$16	$17	$17	8.2%	-0.3%	$15	$16	$16	7.9%	-1.6%

FAMILY PRACTICE

Iowa BS	$13	$14	$12	5.3%	-8.8%	$13	$14	$13	6.6%	-0.6%
Maryland BS	$18	$19	$17	5.4%	-6.9%	$16	$17	$18	7.5%	2.6%
Penn. BS - Penn.	$19	$20	$20	5.0%	-0.6%	$16	$16	$17	6.5%	-2.0%
Penn. BS - D.C.	$23	$23	$23	2.9%	-2.9%	$22	$23	$22	4.7%	-4.4%
Penn. BS - Del.	$19	$17	$19	-10.0%	8.1%	$17	$20	$20	16.8%	-2.9%
Prudential - Ga										
Prudential - N.C.										
Prudential - N.J.	$16	$16	$15	-0.9%	-5.9%	$16	$15	$15	-0.5%	-4.3%
Texas BS										

INTERNAL MEDICINE

Iowa BS	$19	$20	$23	7.5%	12.8%	$16	$17	$17	5.3%	1.7%
Maryland BS	$30	$32	$32	8.2%	-2.5%	$24	$26	$26	8.5%	0.6%
Penn. BS - Penn.	$27	$28	$28	6.3%	-0.3%	$22	$24	$24	6.9%	-1.3%
Penn. BS - D.C.	$29	$30	$29	3.2%	-2.6%	$23	$24	$23	1.9%	-4.5%
Penn. BS - Del.	$27	$28	$29	4.8%	3.6%	$23	$24	$23	3.5%	-2.2%
Prudential - Ga	$22	$22	$24	1.3%	5.4%	$22	$22	$22	-0.4%	0.0%
Prudential - N.C.	$19	$20	$19	3.9%	-5.5%	$19	$19	$18	-0.3%	-2.7%
Prudential - N.J.	$30	$30	$31	1.3%	0.6%	$22	$23	$22	1.3%	-1.5%
Texas BS	$23	$25	$25	7.3%	0.3%	$21	$23	$23	7.9%	-1.3%

TABLE 3F

ALLOWED CHARGES PER SERVICE AND PERCENT CHANGE IN ALLOWED CHARGES PER SERVICE BY PARTICIPATION STATUS

CARDIOLOGY

	Participating					Non-Participating				
	Allowed Charges/Service			Percent Change		Allowed Charges/Service			Percent Change	
Jan-Mar Quarter	83	84	85	84/83	85/84	83	84	85	84/83	85/84
Iowa BS	$91	$109	$100	20.0%	-8.8%	$43	$44	$51	2.7%	16.1%
Maryland BS	$53	$53	$55	0.2%	2.7%	$37	$43	$43	16.1%	0.7%
Penn. BS - Penn.	$38	$38	$40	0.4%	4.7%	$33	$33	$34	-1.0%	3.2%
Penn. BS - D.C.	$45	$47	$48	3.5%	3.4%	$37	$37	$41	0.2%	10.7%
Penn. BS - Del.	$55	$48	$42	-11.6%	-13.4%	$33	$36	$27	7.7%	-25.2%
Prudential - Ga										
Prudential - N.C.	$41	$42	$49	1.2%	16.7%	$29	$30	$32	5.7%	6.1%
Prudential - N.J.	$41	$41	$39	-1.5%	-5.1%	$33	$34	$34	4.3%	0.2%
Texas BS	$40	$41	$48	3.1%	18.0%	$39	$43	$46	9.5%	6.6%
GENERAL SURGERY										
Iowa BS	$45	$52	$50	14.8%	-3.6%	$53	$60	$61	13.1%	1.7%
Maryland BS	$120	$130	$133	8.3%	2.5%	$76	$85	$88	11.2%	3.7%
Penn. BS - Penn.	$100	$109	$113	8.8%	3.1%	$86	$89	$95	2.6%	7.6%
Penn. BS - D.C.	$123	$128	$149	4.5%	16.5%	$86	$107	$110	24.6%	3.2%
Penn. BS - Del.	$133	$145	$153	8.9%	5.4%	$102	$147	$176	44.9%	19.1%
Prudential - Ga	$47	$51	$53	7.3%	5.0%	$47	$45	$47	-5.7%	6.6%
Prudential - N.C.	$104	$112	$109	7.5%	-2.4%	$95	$107	$113	11.9%	5.5%
Prudential - N.J.	$117	$123	$118	5.6%	-4.7%	$94	$93	$94	-0.8%	0.6%
Texas BS	$64	$69	$74	7.8%	7.0%	$56	$60	$72	6.6%	21.5%
OPHTHALMOLOGY										
Iowa BS	$133	$122	$129	-8.4%	6.2%	$65	$72	$69	11.6%	-4.0%
Maryland BS	$111	$154	$147	38.8%	-4.6%	$112	$140	$146	25.8%	4.3%
Penn. BS - Penn.	$109	$121	$108	10.5%	-10.2%	$89	$99	$103	11.4%	4.0%
Penn. BS - D.C.	$95	$131	$132	37.5%	1.0%	$98	$114	$116	15.3%	1.8%
Penn. BS - Del.	$89	$28	$22	-68.8%	-20.4%	$86	$109	$118	26.8%	7.9%
Prudential - Ga	$107	$119	$97	11.2%	-18.6%	$96	$97	$103	0.9%	6.2%
Prudential - N.C.	$120	$117	$111	-2.4%	-5.3%	$86	$89	$92	3.7%	3.4%
Prudential - N.J.	$85	$92	$81	8.5%	-12.0%	$82	$84	$84	2.8%	0.0%
Texas BS	$131	$150	$148	14.5%	-1.6%	$119	$133	$140	12.0%	5.3%
ORTHOPEDIC SURGERY										
Iowa BS	$64	$80	$77	24.7%	-4.3%	$85	$95	$96	11.9%	1.4%
Maryland BS	$97	$104	$99	7.1%	-4.4%	$92	$106	$106	15.3%	0.2%
Penn. BS - Penn.	$103	$109	$111	5.9%	1.7%	$100	$111	$116	11.2%	4.6%
Penn. BS - D.C.	$79	$85	$82	7.6%	-4.0%	$83	$80	$84	-4.2%	5.0%
Penn. BS - Del.	$129	$159	$143	22.8%	-10.1%	$166	$141	$194	-15.1%	37.5%
Prudential - Ga	$80	$81	$76	1.2%	-5.1%	$74	$78	$79	5.0%	1.8%
Prudential - N.C.	$57	$61	$63	6.1%	4.4%	$69	$73	$80	4.4%	10.1%
Prudential - N.J.	$79	$87	$90	9.4%	3.6%	$73	$77	$80	6.3%	3.6%
Texas BS	$90	$96	$113	6.3%	18.1%	$77	$91	$99	18.2%	9.2%

TABLE 3F

ALLOWED CHARGES PER SERVICE AND PERCENT CHANGE IN ALLOWED CHARGES PER SERVICE BY PARTICIPATION STATUS

ANESTHESIOLOGY

	Participating					Non-Participating				
	Allowed Charges/Service			Percent Change		Allowed Charges/Service			Percent Change	
Jan-Mar Quarter	83	84	85	84/83	85/84	83	84	85	84/83	85/84
Iowa BS	$32	$33	$37	5.1%	9.5%	$32	$34	$35	6.2%	2.4%
Maryland BS	$30	$34	$33	11.5%	-0.6%	$30	$33	$31	11.9%	-5.0%
Penn. BS - Penn.	$26	$29	$27	11.8%	-5.7%	$25	$30	$29	17.0%	-1.8%
Penn. BS - D.C.	$25	$29	$27	14.6%	-7.2%	$28	$31	$30	7.4%	-1.4%
Penn. BS - Del.	$22	$27	$25	23.3%	-6.5%	$24	$32	$23	30.2%	-27.5%
Prudential - Ga	$204	$214	$203	4.8%	-4.8%	$183	$177	$188	-3.4%	5.9%
Prudential - N.C.	$115	$109	$119	-5.2%	9.2%	$135	$139	$142	2.9%	2.2%
Prudential - N.J.	$204	$213	$213	4.5%	-0.3%	$201	$211	$207	5.0%	-1.9%
Texas BS	$121	$165	$173	35.9%	4.8%	$213	$190	$188	-10.5%	-1.0%

PATHOLOGY

Iowa BS	$14	$25	$38	80.0%	51.0%	$8	$29	$46	243.9%	60.8%
Maryland BS	$25	$28	$38	14.6%	32.4%	$11	$9	$16	-16.0%	75.4%
Penn. BS - Penn.	$22	$31	$35	43.5%	12.4%	$10	$14	$32	35.9%	129.4%
Penn. BS - D.C.	$9	$14	$32	65.2%	121.8%	$18	$19	$19	5.7%	2.9%
Penn. BS - Del.						$9	$8	$6	-11.1%	-25.0%
Prudential - Ga	$19	$31	$31	65.6%	-0.4%	$4	$10	$19	139.2%	84.0%
Prudential - N.C.	$6	$18	$20	181.9%	9.9%	$8	$13	$21	60.7%	61.7%
Prudential - N.J.	$30	$34	$30	14.8%	-12.9%	$21	$23	$19	10.1%	-15.5%
Texas BS	$5	$14	$23	157.8%	65.6%	$4	$13	$27	184.3%	113.0%

RADIOLOGY

Iowa BS	$25	$23	$27	-6.1%	15.1%	$24	$23	$25	-3.3%	11.8%
Maryland BS	$55	$67	$68	22.7%	0.3%	$56	$54	$61	-2.7%	11.9%
Penn. BS - Penn.	$31	$31	$32	0.4%	0.6%	$34	$35	$34	3.7%	-3.2%
Penn. BS - D.C.	$38	$42	$40	10.0%	-3.5%	$46	$42	$49	-9.1%	17.3%
Penn. BS - Del.	$29	$29	$33	0.1%	14.3%	$37	$41	$43	11.0%	3.7%
Prudential - Ga	$29	$29	$31	-0.8%	4.7%	$26	$26	$26	0.4%	1.9%
Prudential - N.C.	$26	$24	$25	-7.1%	3.4%	$24	$23	$24	-3.6%	4.5%
Prudential - N.J.	$28	$28	$27	0.9%	-1.8%	$27	$26	$25	-3.6%	-5.3%
Texas BS	$26	$27	$28	2.7%	4.3%	$28	$28	$30	0.4%	4.7%

TABLE 3G

PARTICIPATION RATE AND PERCENT CHANGE IN PARTICIPATION RATE

ANESTHESIOLOGY

Jan-Mar Quarter	Participation Rate			Percent Change	
	83	84	85	84/83	85/84
Iowa BS	20.7%	24.3%	28.4%	17.3%	16.6%
Maryland BS	71.1%	68.0%	76.7%	-4.3%	12.8%
Penn. BS - Penn.	62.4%	61.3%	63.8%	-1.7%	4.2%
Penn. BS - D.C.	72.0%	71.1%	72.6%	-1.2%	2.1%
Penn. BS - Del.	60.2%	67.1%	94.0%	11.4%	40.2%
Prudential - Ga	36.9%	36.2%	40.1%	-1.9%	10.8%
Prudential - N.C.	18.0%	17.4%	14.7%	-3.6%	-15.7%
Prudential - N.J.	27.9%	30.5%	32.7%	9.4%	7.2%
Texas BS	13.0%	12.7%	12.9%	-2.0%	1.6%

PATHOLOGY

Iowa BS	99.4%	52.2%	58.8%	-47.4%	12.6%
Maryland BS	56.0%	67.2%	69.8%	20.0%	3.8%
Penn. BS - Penn.	82.6%	82.3%	87.2%	-0.4%	5.9%
Penn. BS - D.C.	73.0%	28.7%	29.3%	-60.7%	2.2%
Penn. BS - Del.					
Prudential - Ga	20.2%	55.1%	57.5%	172.4%	4.2%
Prudential - N.C.	42.2%	45.6%	50.2%	8.3%	9.9%
Prudential - N.J.	66.1%	62.7%	53.3%	-5.2%	-15.1%
Texas BS	41.7%	49.3%	44.2%	18.2%	-10.3%

RADIOLOGY

Iowa BS	22.1%	16.7%	18.9%	-24.8%	13.5%
Maryland BS	75.5%	76.3%	77.6%	1.1%	1.7%
Penn. BS - Penn.	81.8%	83.4%	87.1%	1.9%	4.5%
Penn. BS - D.C.	79.1%	95.1%	95.5%	20.1%	0.5%
Penn. BS - Del.	70.0%	69.7%	78.2%	-0.5%	12.2%
Prudential - Ga	46.2%	47.8%	49.6%	3.3%	4.0%
Prudential - N.C.	39.6%	39.3%	41.0%	-0.7%	4.4%
Prudential - N.J.	45.7%	45.8%	45.9%	0.3%	0.2%
Texas BS	27.9%	29.0%	29.6%	4.1%	1.9%

TABLE 3G

PARTICIPATION RATE AND PERCENT CHANGE IN PARTICIPATION RATE

ALL MD/DO SPECIALTIES COMBINED

Jan-Mar Quarter	Participation Rate 83	84	85	Percent Change 84/83	85/84
Iowa BS	22.4%	22.9%	25.7%	2.6%	11.9%
Maryland BS	50.7%	50.2%	54.2%	-0.9%	7.8%
Penn. BS - Penn.	67.0%	67.4%	68.6%	0.5%	1.8%
Penn. BS - D.C.	55.9%	58.6%	60.0%	4.9%	2.4%
Penn. BS - Del.	53.0%	53.6%	57.7%	1.2%	7.6%
Prudential - Ga	32.2%	32.1%	34.5%	-0.3%	7.6%
Prudential - N.C.	34.5%	33.9%	36.5%	-1.6%	7.6%
Prudential - N.J.	23.9%	23.5%	24.6%	-1.8%	4.8%
Texas BS	23.7%	23.7%	25.2%	0.0%	6.5%
GENERAL PRACTICE					
Iowa BS	15.0%	16.2%	20.2%	7.6%	24.9%
Maryland BS	30.2%	30.7%	39.0%	1.8%	26.9%
Penn. BS - Penn.	46.0%	46.4%	48.1%	1.0%	3.7%
Penn. BS - D.C.	54.6%	59.6%	61.8%	9.2%	3.7%
Penn. BS - Del.	34.3%	34.3%	45.3%	-0.1%	32.0%
Prudential - Ga	32.2%	31.5%	33.1%	-2.1%	5.0%
Prudential - N.C.	23.6%	23.7%	25.7%	0.6%	8.4%
Prudential - N.J.	11.6%	11.5%	12.9%	-0.8%	11.5%
Texas BS	18.8%	19.2%	20.6%	2.5%	7.0%
FAMILY PRACTICE					
Iowa BS	10.9%	12.3%	15.3%	12.9%	23.8%
Maryland BS	26.2%	25.7%	27.1%	-2.1%	5.4%
Penn. BS - Penn.	47.8%	47.3%	50.6%	-0.9%	6.8%
Penn. BS - D.C.	50.4%	51.0%	53.0%	1.1%	4.0%
Penn. BS - Del.	66.7%	60.2%	72.1%	-9.8%	19.7%
Prudential - Ga					
Prudential - N.C.					
Prudential - N.J.	16.9%	14.9%	17.2%	-12.0%	15.6%
Texas BS					
INTERNAL MEDICINE					
Iowa BS	18.9%	21.2%	22.6%	12.7%	6.5%
Maryland BS	40.0%	40.2%	45.0%	0.6%	11.9%
Penn. BS - Penn.	69.2%	69.5%	72.3%	0.4%	4.1%
Penn. BS - D.C.	45.4%	45.9%	48.2%	1.3%	5.0%
Penn. BS - Del.	48.2%	50.5%	53.9%	4.7%	6.8%
Prudential - Ga	26.6%	25.9%	29.4%	-2.7%	13.6%
Prudential - N.C.	25.2%	24.1%	26.6%	-4.4%	10.3%
Prudential - N.J.	18.6%	18.5%	20.7%	-0.4%	12.1%
Texas BS	19.7%	19.3%	20.3%	-2.1%	5.6%

TABLE 3G

PARTICIPATION RATE AND PERCENT CHANGE IN PARTICIPATION RATE

CARDIOLOGY

Jan-Mar Quarter	Participation Rate 83	84	85	Percent Change 84/83	85/84
Iowa BS	66.2%	64.7%	63.3%	-2.4%	-2.1%
Maryland BS	59.4%	54.1%	57.1%	-8.8%	5.5%
Penn. BS - Penn.	76.0%	76.8%	77.7%	1.1%	1.2%
Penn. BS - D.C.	51.5%	61.8%	61.2%	20.0%	-0.9%
Penn. BS - Del.	58.4%	60.6%	75.4%	3.7%	24.3%
Prudential - Ga					
Prudential - N.C.	36.1%	35.2%	34.0%	-2.3%	-3.4%
Prudential - N.J.	12.9%	14.1%	13.3%	9.2%	-5.7%
Texas BS	28.4%	28.8%	28.1%	1.5%	-2.4%

GENERAL SURGERY

Iowa BS	32.2%	32.3%	34.6%	0.4%	7.2%
Maryland BS	65.9%	65.7%	69.0%	-0.4%	5.2%
Penn. BS - Penn.	77.0%	80.0%	80.3%	3.8%	0.4%
Penn. BS - D.C.	59.8%	57.0%	60.8%	-4.7%	6.6%
Penn. BS - Del.	77.1%	75.1%	77.3%	-2.6%	3.0%
Prudential - Ga	32.6%	33.4%	36.1%	2.4%	8.1%
Prudential - N.C.	36.1%	36.5%	36.3%	1.1%	-0.5%
Prudential - N.J.	35.7%	34.9%	36.7%	-2.4%	5.3%
Texas BS	24.4%	24.4%	24.9%	-0.1%	2.3%

OPHTHALMOLOGY

Iowa BS	17.8%	14.4%	20.7%	-19.0%	43.9%
Maryland BS	18.0%	17.7%	23.9%	-2.0%	35.1%
Penn. BS - Penn.	49.2%	50.4%	49.8%	2.5%	-1.1%
Penn. BS - D.C.	41.2%	48.0%	50.8%	16.5%	5.7%
Penn. BS - Del.	0.3%	0.1%	0.2%	-54.7%	7.2%
Prudential - Ga	23.6%	25.2%	28.3%	6.6%	12.5%
Prudential - N.C.	55.9%	52.6%	59.4%	-6.0%	12.9%
Prudential - N.J.	13.4%	14.7%	14.9%	10.3%	0.8%
Texas BS	32.2%	34.4%	39.1%	6.8%	13.7%

ORTHOPEDIC SURGERY

Iowa BS	17.6%	19.8%	20.9%	12.1%	5.7%
Maryland BS	37.2%	36.5%	38.3%	-1.9%	4.9%
Penn. BS - Penn.	74.8%	73.8%	73.1%	-1.4%	-0.8%
Penn. BS - D.C.	42.0%	47.6%	47.0%	13.5%	-1.4%
Penn. BS - Del.	37.6%	41.1%	47.0%	9.2%	14.3%
Prudential - Ga	19.8%	19.4%	20.2%	-1.9%	4.1%
Prudential - N.C.	33.3%	34.8%	33.0%	4.5%	-5.2%
Prudential - N.J.	19.5%	19.5%	22.7%	0.3%	16.1%
Texas BS	16.4%	16.2%	17.9%	-1.4%	10.7%

ASSIGNMENT RATES FOR NON-PARTICPATING PHYSICIANS AND PERCENT CHANGE IN ASSIGNMENT RATE.

ALL MD/DO SPECIALTIES COMBINED

Jan-Mar Quarter	Assignment Rate 83	84	85	Percent Change 84/83	85/84
Iowa BS	21.3%	22.0%	25.1%	3.5%	14.1%
Maryland BS	59.9%	60.9%	62.4%	1.7%	2.5%
Penn. BS - Penn.	46.4%	45.1%	35.6%	-2.7%	-21.1%
Penn. BS - D.C.	41.2%	40.1%	35.2%	-2.5%	-12.3%
Penn. BS - Del.	55.5%	52.7%	39.8%	-5.1%	-24.4%
Prudential - Ga	46.4%	44.8%	44.7%	-3.5%	-0.3%
Prudential - N.C.	40.4%	35.4%	35.7%	-12.4%	0.9%
Prudential - N.J.	45.8%	45.3%	45.3%	-1.0%	-0.1%
Texas BS	44.9%	43.5%	43.8%	-3.2%	0.6%

GENERAL PRACTICE

Iowa BS	18.7%	18.7%	25.7%	-0.4%	37.8%
Maryland BS	36.8%	37.2%	31.2%	0.8%	-15.9%
Penn. BS - Penn.	29.7%	29.0%	21.8%	-2.3%	-25.0%
Penn. BS - D.C.	42.6%	31.3%	34.3%	-26.5%	9.7%
Penn. BS - Del.	34.4%	34.3%	22.3%	-0.2%	-35.0%
Prudential - Ga	51.6%	48.8%	47.7%	-5.4%	-2.3%
Prudential - N.C.	40.5%	35.2%	32.3%	-13.2%	-8.2%
Prudential - N.J.	39.1%	36.2%	34.2%	-7.4%	-5.4%
Texas BS	42.6%	41.9%	39.7%	-1.7%	-5.2%

FAMILY PRACTICE

Iowa BS	20.8%	20.4%	23.7%	-2.0%	15.9%
Maryland BS	44.3%	43.5%	46.1%	-1.7%	5.8%
Penn. BS - Penn.	35.6%	34.6%	24.1%	-2.8%	-30.2%
Penn. BS - D.C.	33.9%	34.1%	28.8%	0.4%	-15.4%
Penn. BS - Del.	62.4%	59.6%	46.1%	-4.6%	-22.7%
Prudential - Ga					
Prudential - N.C.					
Prudential - N.J.	37.9%	34.1%	31.6%	-10.0%	-7.5%
Texas BS					

INTERNAL MEDICINE

Iowa BS	21.9%	20.9%	22.7%	-4.8%	8.9%
Maryland BS	56.4%	59.2%	57.0%	5.0%	-3.6%
Penn. BS - Penn.	48.2%	48.7%	35.3%	1.0%	-27.4%
Penn. BS - D.C.	35.6%	33.2%	31.1%	-7.0%	-6.3%
Penn. BS - Del.	49.4%	49.4%	30.7%	0.1%	-37.8%
Prudential - Ga	40.9%	41.5%	40.0%	1.5%	-3.5%
Prudential - N.C.	32.3%	30.2%	30.6%	-6.3%	1.1%
Prudential - N.J.	47.5%	46.7%	46.4%	-1.8%	-0.5%
Texas BS	36.6%	36.4%	36.3%	-0.5%	-0.4%

ASSIGNMENT RATES FOR NON-PARTICPATING PHYSICIANS AND PERCENT CHANGE IN ASSIGNMENT RATE.

CARDIOLOGY

Jan-Mar Quarter	Assignment Rate 83	84	85	Percent Change 84/83	85/84
Iowa BS	31.7%	36.4%	54.4%	14.6%	49.5%
Maryland BS	61.2%	65.0%	64.0%	6.1%	-1.6%
Penn. BS - Penn.	52.2%	46.3%	35.9%	-11.2%	-22.6%
Penn. BS - D.C.	45.0%	41.6%	43.3%	-7.4%	3.9%
Penn. BS - Del.	78.8%	55.6%	66.0%	-29.4%	18.7%
Prudential - Ga					
Prudential - N.C.	36.3%	36.9%	31.8%	1.6%	-13.7%
Prudential - N.J.	53.6%	52.5%	52.8%	-2.0%	0.7%
Texas BS	52.1%	50.7%	47.6%	-2.6%	-6.1%

GENERAL SURGERY

Iowa BS	21.5%	22.7%	31.4%	5.3%	38.6%
Maryland BS	55.1%	56.0%	59.1%	1.6%	5.4%
Penn. BS - Penn.	53.5%	51.6%	47.7%	-3.6%	-7.6%
Penn. BS - D.C.	46.8%	49.3%	33.8%	5.2%	-31.5%
Penn. BS - Del.	42.7%	45.9%	52.8%	7.3%	15.2%
Prudential - Ga	48.1%	48.0%	47.6%	-0.2%	-0.9%
Prudential - N.C.	45.8%	42.8%	42.0%	-6.6%	-1.9%
Prudential - N.J.	51.8%	52.4%	52.9%	1.3%	0.8%
Texas BS	43.6%	45.2%	43.8%	3.7%	-3.2%

OPHTHALMOLOGY

Iowa BS	8.5%	9.2%	11.2%	7.8%	21.3%
Maryland BS	50.5%	51.9%	58.9%	2.8%	13.5%
Penn. BS - Penn.	41.9%	40.1%	22.3%	-4.3%	-44.5%
Penn. BS - D.C.	26.5%	29.9%	17.5%	12.8%	-41.5%
Penn. BS - Del.	37.3%	32.7%	16.6%	-12.3%	-49.1%
Prudential - Ga	37.9%	36.1%	48.1%	-4.6%	33.3%
Prudential - N.C.	23.1%	27.7%	37.3%	20.2%	34.6%
Prudential - N.J.	42.5%	42.4%	43.7%	-0.4%	3.1%
Texas BS	42.0%	48.3%	55.5%	15.0%	14.9%

ORTHOPEDIC SURGERY

Iowa BS	19.2%	20.4%	34.1%	6.1%	67.7%
Maryland BS	51.8%	53.7%	53.2%	3.7%	-1.0%
Penn. BS - Penn.	54.2%	55.2%	54.8%	1.8%	-0.8%
Penn. BS - D.C.	39.4%	40.1%	34.5%	1.8%	-14.0%
Penn. BS - Del.	68.8%	72.8%	75.9%	5.8%	4.2%
Prudential - Ga	39.7%	39.7%	38.9%	0.1%	-2.0%
Prudential - N.C.	32.6%	31.7%	33.6%	-2.7%	5.7%
Prudential - N.J.	38.0%	40.9%	38.7%	7.5%	-5.5%
Texas BS	33.1%	32.5%	32.0%	-1.8%	-1.7%

ASSIGNMENT RATES FOR NON-PARTICPATING PHYSICIANS AND PERCENT CHANGE IN ASSIGNMENT RATE.

Jan-Mar Quarter	Assignment Rate 83	84	85	Percent Change 84/83	85/84
ANESTHESIOLOGY					
Iowa BS	21.9%	20.9%	20.3%	-4.5%	-3.1%
Maryland BS	74.0%	59.3%	60.8%	-19.8%	2.5%
Penn. BS - Penn.	47.9%	50.8%	49.3%	6.0%	-2.9%
Penn. BS - D.C.	36.9%	42.3%	44.4%	14.6%	4.8%
Penn. BS - Del.	100.0%	100.0%	100.0%	0.0%	0.0%
Prudential - Ga	49.7%	48.0%	47.6%	-3.5%	-0.9%
Prudential - N.C.	43.9%	40.6%	46.9%	-7.5%	15.6%
Prudential - N.J.	39.6%	40.2%	42.1%	1.6%	4.7%
Texas BS	45.8%	38.2%	41.2%	-16.6%	7.7%
PATHOLOGY					
Iowa BS	16.6%	23.5%	8.3%	41.1%	-64.6%
Maryland BS	23.8%	27.8%	16.7%	16.6%	-40.0%
Penn. BS - Penn.	41.0%	64.2%	92.7%	56.6%	44.3%
Penn. BS - D.C.	93.4%	96.0%	95.4%	2.8%	-0.6%
Penn. BS - Del.	0.0%	0.0%	0.0%		
Prudential - Ga	82.9%	60.8%	53.1%	-26.7%	-12.6%
Prudential - N.C.	73.4%	47.2%	38.3%	-35.8%	-18.8%
Prudential - N.J.	14.0%	15.8%	31.4%	13.0%	98.2%
Texas BS	85.6%	57.5%	49.5%	-32.8%	-13.9%
RADIOLOGY					
Iowa BS	40.8%	40.5%	36.4%	-0.8%	-10.1%
Maryland BS	50.4%	58.7%	61.3%	16.6%	4.3%
Penn. BS - Penn.	78.4%	71.5%	73.2%	-8.8%	2.3%
Penn. BS - D.C.	85.8%	48.9%	38.7%	-42.9%	-20.9%
Penn. BS - Del.	98.9%	78.7%	95.6%	-20.4%	21.5%
Prudential - Ga	70.9%	66.0%	59.0%	-6.8%	-10.7%
Prudential - N.C.	72.8%	44.3%	38.8%	-39.2%	-12.2%
Prudential - N.J.	45.2%	43.5%	44.8%	-3.6%	2.8%
Texas BS	49.5%	44.9%	41.1%	-9.1%	-8.6%

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